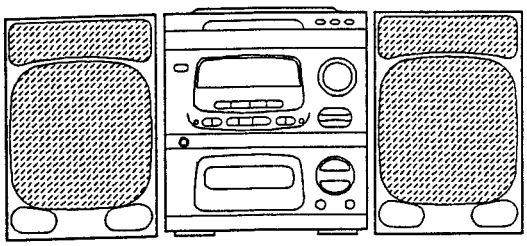
aiwa

aiwa SERVICE

CX-N450G
CX-N400
CX-NAP1
SX-FN450
SX-N400



COMPACT DISC STEREO SYSTEM

- BASIC TAPE MECHANISM: 2ZM-1 R2N
- BASIC CD MECHANISM: KSM-2101ABM
- TYPE: EEZ,EZ,K<450G> ,Z<AP1>
  EEZ,EZ,EE,K<400>

SERVICE MANUAL

REVISION PUBLISHING

- このサービスマニュアルはシンプル版 (CX-N450G : S/M Code No. 09-945-065-40T), (CX-N400 : S/M Code No. 09-945-065-30T)の改定版です。
  差し替えて使用してください。
- This Service Manual is the "Revision Publishing" and replaces "Simple Manual":
  (CX-N150G : S/M Code No. 09-095-065-40T),
  (CX-N400 : S/M Code No. 09-945-065-30T).

S/M Code No. 09-949-071-40T

TABLE OF CONTENTS

SPECIFICATIONS 3
PROTECTION OF EYES FROM LASER BEAM DURING SERVICING 4
PRECAUTION TO REPLACE OPTICAL BLOCK (KSS – 210A) 4
ELECTRICAL MAIN PARTS LIST ..... 5~10
BLOCK DIAGRAM – 1 (MAIN/FRONT) ..... 11~12
BLOCK DIAGRAM – 2 (CD) ..... 13~14
BLOCK DIAGRAM – 3 (TUNER) 15
BLOCK DIAGRAM – 4 (ECHO/DSP) 16
FL GRID ASSIGNMENT/ANODE CONNECTION ..... 17~18
WIRING – 1 (MAIN) ..... 19~20
SCHEMATIC DIAGRAM – 1 (MAIN) ..... 21~22
WIRING – 2 (FRONT) ..... 23~24
SCHEMATIC DIAGRAM – 2 (FRONT) ..... 25~26
WIRING – 3 (CD) ..... 27~28
SCHEMATIC DIAGRAM – 3 (CD) ..... 29~30
WIRING – 4 (TAPE) 31
IC DESCRIPTION ..... 32~39
TRANSISTOR ILLUSTRATION 39
IC BLOCK DIAGRAM ..... 40~44
ELECTRICAL ADJUSTMENT ..... 45~50
PRACTICAL SERVICE FIGURE 47
MECHANICAL EXPLODED VIEW 1/2 51
MECHANICAL PARTS LIST 1/2 52
MECHANICAL EXPLODED VIEW 2/2 53
MECHANICAL PARTS LIST 2/2 54
TAPE MECHANISM EXPLODED VIEW 1/1 ..... 55~56
TAPE MECHANISM PARTS LIST 1/1 57
CD MECHANISM EXPLODED VIEW 1/1 58
CD MECHANISM PARTS LIST 1/1 58
SPRING APPLICATION POSITION 59
SPEAKER PARTS LIST 60
ACCESSORIES/PACKAGE LIST 61
REFERENCE NAME LIST 62

SPECIFICATIONS

TUNER/AMPLIFIER

<FM section>

Frequency range	87.5 MHz to 108 MHz
Usable sensitivity (IHF)	EZ, Z: 1.9 V (75 ohms) 16.8 dBf K: 1.6 μ V (75 ohms) 15.2 dBf
Alternate channel selectivity	EXCEPT Z: 50 dB (± 400 kHz) Z: 65 dB (± 400 kHz)
Signal-to noise-ratio	STEREO: 70 dB (K) 65 dB (EZ, Z) CX-N450G: MONO: 76 dB (K) 73 dB (EZ) CX-N400: MONO: 75 dB(EE, K) 72 dB(EZ, Z)
Harmonic distortion	CX-N450G 0.8% (MONO), 1 kHz 1.0% (STEREO, L-R), 1 kHz CX-N400, AP1: 0.3% (MONO), 1 kHz 0.5% (STEREO, L-R), 1 kHz
Frequency response	CX-N450G 35 Hz to 15 kHz (+1.5 dB, − 3 dB) CX-N400, AP1: 30 Hz to 15 kHz (+0.5 dB, − 3 dB)
Stereo separation	EE, EZ, Z: 30 dB at 1 kHz CX-N400 K: 30 dB at 1 kHz CX-N450G K: 33 dB at 1 kHz
Antenna	75 ohms (unbalanced)

<MW section>

Frequency range	531 (530) kHz to 1602 (1710) kHz
Usable sensitivity	350 μV/m
Selectivity	22 dB (9 kHz)
Signal-to-noise ratio	53 dB (100 dB input)
Antenna	Loop antenna

<LW section>

Frequency range	144 kHz to 290 kHz
Sensitivity	1400 μV/m
Antenna	Loop antenna

<Timer section>

Program timer	On-timer, free setting
Sleep timer	Setting in 10-minute increments, 240 minutes maximum

<Amplifier section>

Power output	EE, EZ, Z: 20 W+20 W (6 ohms, T.H.D. 1% 1 kHz) K: 25 W + 25 W (6 ohms, T.H.D. 10% 1 kHz) 20 W + 20 W (6 ohms, T.H.D. 1% 1 kHz)
Harmonic distortion	0.05 % (10 W, 1 kHz, 6 ohms)
Input terminal	VIDEO/AUX: 150 mV (adjustable) MIC: 2.0 mV/10 kΩ
Output terminal	SUPER WOOFER: 1.2 V

CASSETTE DECK/COMPACT DISC PLAYER

<Cassette deck section>

Track format	4 tracks, 2 channels
Frequency response	Normal tape: 50 – 17000 Hz
Signal-to-noise ratio	58 dB (DOLBY NR ON, Normal tape peak level)
Tape speed	4.8 cm/sec. ($1^{7}/_{8}$ ips)
Recording system	AC bias
Erasure system	AC erase
Motor	DC servo motor × 1
Heads	Recording/playback/erasure head × 1

<CD player section>

Disc	Compact disc
Scanning method	Non-contact optical scanner (semi-conductor laser)
Laser	Semiconductor laser (λ = 780 nm)
Rotation speed	Approx. 500 rpm – 200 rpm (CLV)
Error correction	Cross Interleave, Reed Solomon code
No. of channels	2 channels
D-A conversion	16-bit linear
Wow/flutter	Unmeasurable
Signal-to-noise ratio	90 dB (1 kHz, 0 dB)
Harmonic distortion	0.05% (1 kHz, 0 dB)

Video signal	NTSC/PAL
Video output	Phono jack 1 Vp-p, 75 Ω unbalanced

CX-N450G ONLY

SPEAKER SYSTEM

(These values are for one speaker.)

Cabinet type	3 way, bass reflex (magnetism sealed type)
Speaker	130 mm ($5^{1}/_{8}$ in.) cone type woofer 50 mm (2 in.) cone type tweeter 20 mm ($^{13}/_{16}$ in.) ceramic type super tweeter
Impedance	6 ohms
Music power	40 W
Output sound pressure level	87 dB/W/m
Dimensions (W × H × D)	EXCEPT Z: 180 × 302 × 220 mm (7 1/8 × 12 × 8 3/4 in.) Z: 206 × 302 × 260 mm (8 1/8 × 12 × 10 1/4 in.)
Weight	EXCEPT Z: 2.6 kg (5 lbs. 12 oz) Z: 3.5 kg (7 lbs. 11 oz)

COMMON SECTION

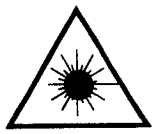
Power requirements	EE, EZ,Z: AC 230 V, 50 Hz K: AC 230 V – 240 V, 50 Hz
Power consumption	EE, EZ, Z: 130 W K: 145 W
Dimensions (W × H × D)	Main unit: 260 × 305 × 340 mm (10 1/4 × 12 1/8 × 13 1/2 in.) System: EXCEPT Z: 620 × 305 × 340 mm (24 1/2 × 12 1/8 × 13 1/2 in.) Z: 672 × 305 × 340 mm (26 1/2 × 12 1/8 × 13 1/2 in.)
Weight	Main unit: 6.9 kg (15 lbs. 3 oz) System: EXCEPT Z: 12.1 kg (26 lbs. 11 oz) Z: 13.9 kg (30 lbs. 10 oz)

- Design and specifications are subject to change without notice.
- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
  "DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.
- The word "BBE" and the "BBE symbol" are trademarks of BBE Sound, Inc.
  Under license from BBE Sound, Inc.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!
WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserståling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!
Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

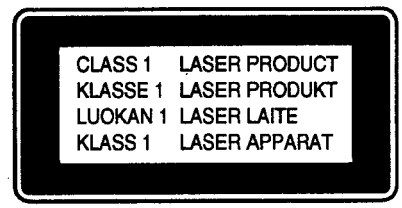
VARNING!
Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!
Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

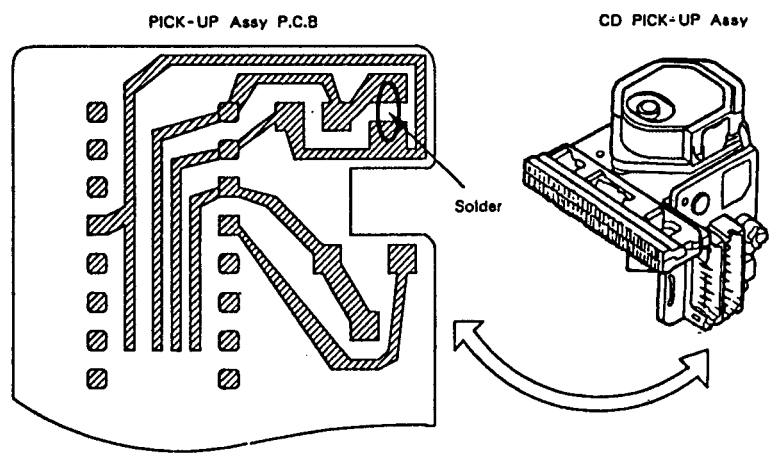
This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.



Precaution to replace Optical block (KSS – 210A)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure to ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove the solder shown in the right figure.



ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	ｶﾝﾘ NO.	DESCRIPTION
IC			
	87-017-745-010		IC, CXA1782BQ
	87-001-334-010		IC, LB9051A
	87-017-486-080		IC, BA6397FP
	87-017-586-010		IC, CXD2518Q
	83-NF8-610-010		IC, LC866432V-5530〈450G〉
	83-NFJ-601-010		IC, LC866432V-5531〈EXCEPT 450G〉
	87-017-585-080		IC, NJM4580E
	82-NE6-617-010		IC, GP1U581X
	87-001-475-010		IC, STK4132-2
	87-001-982-010		IC, TA7291S
	87-017-738-010		IC, NJM2068LD
	87-017-887-010		IC, XR1090ACP
	87-017-915-080		IC, BU4094BCF〈450G, AP1〉
	87-002-727-010		IC, NJM4558L
	87-017-375-080		IC, TC4094BF
	87-001-874-010		IC, HA12134A
	87-017-673-010		IC, BA3837
	87-017-449-010		IC, XR-1071CP
	87-017-914-010		IC, BU4094BCP
	87-001-607-080		IC, NJM4558M
	87-002-247-010		IC, BU4052B
	87-017-726-080		IC, BU4052BCF〈450G, AP1〉
	87-002-272-080		IC, TC4052 BF
	87-001-376-010		IC, LC7218
	87-017-714-010		IC, LA1836
	87-017-667-010		IC, LC7870NE〈450G〉
	87-002-892-080		IC, MM1031XMR〈450G〉
	87-017-199-010		IC, MN41464AZ〈450G〉
	87-020-881-080		IC, NJM78L05A〈450G〉
	87-017-675-010		IC, M65840FP〈450G〉
	87-002-872-080		IC, MC14053BF〈450G, AP1〉
	87-017-309-010		IC, M65830P〈450G, AP1〉
TRANSISTOR			
	89-110-154-080		TR, 2SA1015Y
	89-113-187-080		TR, 2SA1318TU
	87-026-233-080		C-TR, DTA114TK
	87-026-211-080		C-TR, DTA144EK T147
	89-213-702-010		TR, 2SB1370E
	87-026-609-080		TR, KTA1266GR
	87-026-610-080		TR, KTC3198GR
	89-327-125-080		C-TR, 2SC2712GR
	89-332-665-080		TR, 2SC3266GR
	89-111-625-080		C-TR, 2SA1162GR
	89-333-266-080		C-TR, 2SC3326B
	87-026-232-080		C-TR, DTA144WK
	89-318-154-080		TR, 2SC1815Y
	89-333-317-080		TR, 2SC3331T
	87-026-213-080		C-TR, DTC114YK
	87-026-226-080		C-TR, DTA143EK
	89-503-655-680		FET, 2SK365GR, BL
	87-026-210-080		C-TR, DTC144EK T147
	87-026-235-080		C-TR, DTC114EK
	89-113-187-880		TR, 2SA1318TU
	89-327-126-080		C-TR, 2SC2712BL
	87-026-224-080		C-TR, DTC143XK
	89-109-521-080		TR, 2SA952K
	89-112-965-080		TR, 2SA1296GR
	89-406-555-080		TR, 2SD655E
	89-502-464-080		FET, 2SK246Y
	87-026-214-080		TR, DTA114YS
	89-327-143-080		C-TR, 2SC2714 (O)
	89-503-025-080		C-FET, 2SK302 GR
	89-502-115-080		C-FET, 2SK211GR
	89-505-434-580		C-FET, 2SK543(4/5)

REF. NO	PART NO.	ｶﾝﾘ NO.	DESCRIPTION
DIODE			
	87-002-564-080		DIODE, 1SS133 RA
	87-002-225-010		DIODE, DBF40C-K10
	87-020-465-080		DIODE, 1SS133
	87-001-574-080		DIODE, 1SR139-200 T31
	87-020-027-080		C-DIODE, 1SS184
	87-020-125-080		C-DIODE, 1SS181
	87-017-174-080		ZENER, HZS11A3L
	87-017-147-080		ZENER, HZS33-2
	87-001-731-080		ZENER, HZS6C2L
	87-017-091-080		ZENER, HZS5C1
	87-020-331-080		C-DIODE, DAN202K
	87-001-290-080		ZENER, HZS6B1L
	87-001-559-080		DIODE, 1SS131(T-72)
	87-017-083-080		ZENER, HZS4C2
MAIN C.B			
BPF832	87-030-105-010		FLTR, BPMB6A
C101	87-010-399-090		CAP, E 3300-35 SME
C102	87-010-399-090		CAP, E 3300-35 SME
C104	87-010-235-080		CAP, E 470-16 SME
C105	87-010-381-080		CAP, E 330-16 SME
C106	87-010-764-080		CAP, E 47-63V
C107	87-010-260-080		CAP, E 47-25 SME
C108	87-010-260-080		CAP, E 47-25 SME
C109	87-010-263-080		CAP, E 100-10
C112	87-010-237-080		CAP, E 1000-16
C113	87-010-403-080		CAP, E 3.3-50 SME
C115	87-016-247-080		C-CAP, 0.1-50 F〈EXCEPT 450G〉
C116	87-012-140-080		C-CAP, S 470P-50 CH
C118	87-016-247-080		C-CAP, 0.1-50 F〈EXCEPT 450G〉
C122	87-018-134-080		CAP, TC-U 0.01-16 Y
C123	87-010-197-080		C-CAP, S 0.01-25 B
C124	87-010-197-080		C-CAP, S 0.01-25 B
C201	87-010-191-080		C-CAP, S 0.015-50 VF
C202	87-010-191-080		C-CAP, S 0.015-50 VF
C203	87-010-197-080		C-CAP, S 0.01-25 B
C204	87-010-197-080		C-CAP, S 0.01-25 B
C205	87-018-119-080		CAP, TC-U 100P F〈450GEZ, 450GEEZ〉
C206	87-018-119-080		CAP, TC-U 100P F〈450GEZ, 450GEEZ〉
C213	87-010-404-080		CAP, E 4.7-50 SME
C214	87-010-404-080		CAP, E 4.7-50 SME
C215	87-010-182-080		C-CAP, S 2200P-50 B
C216	87-010-182-080		C-CAP, S 2200P-50 B
C217	87-010-404-080		CAP, E 4.7-50 SME
C218	87-010-404-080		CAP, E 4.7-50 SME
C219	87-010-185-080		C-CAP, S 3900P-50 B
C220	87-010-185-080		C-CAP, S 3900P-50 B
C221	87-010-401-080		CAP, E 1-50 SME
C222	87-010-401-080		CAP, E 1-50 SME
C223	87-016-130-080		CAP, E 47-25 KME
C224	87-016-130-080		CAP, E 47-25 KME
C225	87-016-130-080		CAP, E 47-25 KME
C226	87-016-130-080		CAP, E 47-25 KME
C227	87-012-368-080		C-CAP, S 0.1-50F
C228	87-012-368-080		C-CAP, S 0.1-50F
C229	87-012-361-080		C-CAP, S 0.056-25 Y
C230	87-012-361-080		C-CAP, S 0.056-25 Y
C236	87-010-408-080		CAP, E 47-50 SME
C243	87-010-154-080		C-CAP, S 10P-50 CH
C244	87-010-154-080		C-CAP, S 10P-50 CH
C250	87-010-196-080		C-CAP, S 0.1-25 F
C313	87-010-196-080		C-CAP, S 0.1-25 F
C351	87-012-154-080		C-CAP, S 150P-50 CH
C352	87-012-154-080		C-CAP, S 150P-50 CH
C353	87-012-145-080		C-CAP, S 270P-50CH
C354	87-012-145-080		C-CAP, S 270P-50CH
C355	87-012-154-080		C-CAP, S 150P-50 CH

REF. NO	PART NO.	カンリ NO.	DESCRIPTION
C356	87-012-154-080		C-CAP, S 150P-50 CH
C357	87-010-189-080		C-CAP, S 8200P-50 B
C358	87-010-189-080		C-CAP, S 8200P-50 B
C361	87-010-197-080		C-CAP, S 0.01-25 B
C362	87-010-197-080		C-CAP, S 0.01-25 B
C363	87-010-197-080		C-CAP, S 0.01-25 B
C364	87-010-197-080		C-CAP, S 0.01-25 B
C401	87-010-402-080		CAP, E 2.2-50 SME
C402	87-010-402-080		CAP, E 2.2-50 SME
C405	87-010-197-080		C-CAP, S 0.01-25 B
C406	87-010-197-080		C-CAP, S 0.01-25 B
C409	87-010-189-080		C-CAP, S 8200P-50 B
C410	87-010-189-080		C-CAP, S 8200P-50 B
C415	87-010-299-080		C-CAP 150P 50 CH
C416	87-010-299-080		C-CAP 150P 50 CH
C451	87-012-156-080		C-CAP, S 220P-50 CH
C452	87-012-156-080		C-CAP, S 220P-50 CH
C453	87-010-178-080		C-CAP, S 1000P-50 B
C454	87-010-178-080		C-CAP, S 1000P-50 B
C455	87-010-178-080		C-CAP, S 1000P-50 B
C456	87-010-260-080		CAP, E 47-25 SME
C457	87-010-197-080		C-CAP, S 0.01-25 B
C458	87-010-183-080		C-CAP, S 2700P-50 B
C459	87-010-183-080		C-CAP, S 2700P-50 B
C460	87-010-183-080		C-CAP, S 2700P-50 B
C470	87-010-196-080		C-CAP, S 0.1-25 F
C501	87-010-196-080		C-CAP, S 0.1-25 F
C502	87-010-196-080		C-CAP, S 0.1-25 F
C503	87-012-155-080		C-CAP, S 180P-50 CH
C504	87-012-155-080		C-CAP, S 180P-50 CH
C507	87-010-178-080		C-CAP, S 1000P-50 B
C508	87-010-178-080		C-CAP, S 1000P-50 B
C509	87-010-371-080		CAP, E 470-6.3
C515	87-010-545-080		CAP, E 0.22-50 SME
C516	87-010-545-080		CAP, E 0.22-50 SME
C517	87-012-142-080		C-CAP, S 0.33-16 F
C518	87-012-142-080		C-CAP, S 0.33-16 F
C519	87-010-196-080		C-CAP, S 0.1-25 F
C521	87-010-197-080		C-CAP, S 0.01-25 B
C522	87-010-318-080		C-CAP, S 47P-50 CH
C523	87-010-197-080		C-CAP, S 0.01-25 B
C524	87-010-402-080		CAP, E 2.2-50 SME
C530	87-010-194-080		C-CAP, S 0.047-25 F
C531	87-010-545-080		CAP, E 0.22-50 SME
C532	87-010-382-080		CAP, E 22-25 SME
C533	87-010-404-080		CAP, E 4.7-50 SME
C534	87-010-404-080		CAP, E 4.7-50 SME
C535	87-010-404-080		CAP, E 4.7-50 SME
C536	87-010-404-080		CAP, E 4.7-50 SME
C537	87-010-196-080		C-CAP, S 0.1-25 F
C538	87-010-196-080		C-CAP, S 0.1-25 F
C539	87-010-405-080		CAP, E 10-50 SME〈EXCEPT 450G〉
C540	87-010-260-080		CAP, E 47-25 SME
C541	87-010-196-080		C-CAP, S 0.1-25 F
C543	87-010-544-080		CAP, E 0.1-50
C545	87-010-400-080		CAP, E 0.47-50 SME
C546	87-010-400-080		CAP, E 0.47-50 SME
C547	87-010-213-080		C-CAP, S 0.015-25 B
C548	87-010-213-080		C-CAP, S 0.015-25 B
C549	87-012-142-080		C-CAP, S 0.33-16 F
C550	87-016-081-080		C-CAP, S 0.1-16 RK
C551	87-016-081-080		C-CAP, S 0.1-16 RK
C553	87-010-182-080		C-CAP, S 2200P-50 B
C554	87-010-182-080		C-CAP, S 2200P-50 B
C601	87-010-401-080		CAP, E 1-50 SME
C602	87-010-405-080		CAP, E 10-50 SME
C603	87-010-101-080		CAP, E 220-16 SME
C605	87-015-627-080		C-CAP, 1000P-50 B
C606	87-015-627-080		C-CAP, 1000P-50 B
C607	87-010-404-080		CAP, E 4.7-50 SME
C608	87-010-404-080		CAP, E 4.7-50 SME
C609	87-010-404-080		CAP, E 4.7-50 SME
C610	87-010-404-080		CAP, E 4.7-50 SME
C611	87-010-177-080		C-CAP, S 820P-50 SL
C612	87-010-177-080		C-CAP, S 820P-50 SL
C613	87-010-404-080		CAP, E 4.7-50 SME
C614	87-010-404-080		CAP, E 4.7-50 SME
C615	87-010-400-080		CAP, E 0.47-50 SME
C616	87-010-400-080		CAP, E 0.47-50 SME
C617	87-010-197-080		C-CAP, S 0.01-25 B
C618	87-010-197-080		C-CAP, S 0.01-25 B
C619	87-010-184-080		C-CAP, S 3300P-50 B
C620	87-010-184-080		C-CAP, S 3300P-50 B
C621	87-012-155-080		C-CAP, S 180P-50 CH
C622	87-012-155-080		C-CAP, S 180P-50 CH
C623	87-010-405-080		CAP, E 10-50 SME
C624	87-010-405-080		CAP, E 10-50 SME
C630	87-010-405-080		CAP, E 10-50 SME
C631	87-010-401-080		CAP, E 1-50 SME
C640	87-010-196-080		C-CAP, S 0.1-25 F
C641	87-010-196-080		C-CAP, S 0.1-25 F
C645	87-012-142-080		C-CAP, S 0.33-16 F
C646	87-012-142-080		C-CAP, S 0.33-16 F
C651	87-010-316-080		C-CAP, S 33P-50 CH
C652	87-010-316-080		C-CAP, S 33P-50 CH
C701	87-010-381-080		CAP, E 330-16 SME
C702	87-010-404-080		CAP, E 4.7-50 SME
C703	87-010-197-080		C-CAP, S 0.01-25 B
C704	87-010-197-080		C-CAP, S 0.01-25 B
C711	87-010-263-080		CAP, E 100-10
C712	87-010-196-080		C-CAP, S 0.1-25 F
C722	87-010-312-080		C-CAP, S 15P-50 CH
C723	87-010-178-080		C-CAP, S 1000P-50 B
C724	87-010-178-080		C-CAP, S 1000P-50 B
C725	87-010-178-080		C-CAP, S 1000P-50 B
C726	87-010-178-080		C-CAP, S 1000P-50 B
C727	87-010-194-080		C-CAP, S 0.047-25 F
C728	87-010-248-080		CAP, E 220-10 SME
C732	87-010-197-080		C-CAP, S 0.01-25 B
C771	87-010-405-080		CAP, E 10-50 SME
C772	87-010-194-080		C-CAP, S 0.047-25 F
C773	87-010-196-080		C-CAP, S 0.1-25 F
C774	87-010-263-080		CAP, E 100-10
C775	87-010-405-080		CAP, E 10-50 SME
C776	87-010-197-080		C-CAP, S 0.01-25 B
C777	87-010-400-080		CAP, E 0.47-50 SME
C778	87-010-401-080		CAP, E 1-50 SME
C779	87-010-401-080		CAP, E 1-50 SME
C780	87-010-197-080		C-CAP, S 0.01-25 B
C781	87-010-405-080		CAP, E 10-50 SME
C782	87-010-405-080		CAP, E 10-50 SME
C787	87-010-184-080		C-CAP, S 3300P-50 B
C788	87-010-184-080		C-CAP, S 3300P-50 B
C789	87-010-179-080		C-CAP, S 1200P-50 B
C790	87-010-179-080		C-CAP, S 1200P-50 B
C791	87-010-401-080		CAP, E 1-50 SME
C792	87-010-182-080		C-CAP, S 2200P-50 B
C793	87-010-189-080		C-CAP, S 8200P-50 B
C794	87-010-408-080		CAP, E 47-50 SME
C795	87-010-194-080		C-CAP, S 0.047-25 F
C796	87-010-403-080		CAP, E 3.3-50 SME
C797	87-010-405-080		CAP, E 10-50 SME
C798	87-010-196-080		C-CAP, S 0.1-25 F
C802	87-010-311-080		C-CAP, S 12P-50 CH
C805	87-010-147-080		C-CAP, S 3P-50 CH
C806	87-010-148-080		C-CAP, S 4P-50 CH
C807	87-010-154-080		C-CAP, S 10P-50 CH
C808	87-010-322-080		C-CAP, S 100P-50 CH
C809	87-010-197-080		C-CAP, S 0.01-25 B
C810	87-010-197-080		C-CAP, S 0.01-25 B

REF. NO	PART NO.	カンリ NO.	DESCRIPTION
C811	87-010-149-080		C-CAP, S 5P-50 CH
C812	87-010-313-080		C-CAP, S 18P-50 CH
C813	87-010-197-080		C-CAP, S 0.01-25 B
C814	87-010-197-080		C-CAP, S 0.01-25 B
C816	87-010-197-080		C-CAP, S 0.01-25 B
C817	87-010-197-080		C-CAP, S 0.01-25 B
C818	87-010-197-080		C-CAP, S 0.01-25 B
C819	87-010-197-080		C-CAP, S 0.01-25 B
C820	87-010-260-080		CAP, E 47-25 SME
C821	87-010-197-080		C-CAP, S 0.01-25 B
C823	87-010-197-080		C-CAP, S 0.01-25 B
C826	87-010-197-080		C-CAP, S 0.01-25 B
C827	87-010-145-080		C-CAP, S 1P-50 CH
C830	87-010-197-080		C-CAP, S 0.01-25 B
C831	87-010-154-080		C-CAP, S 10P-50 CH
C832	87-010-314-080		C-CAP, S 22P-50 CH
C834	87-010-154-080		C-CAP, S 10P-50 CH
C835	87-010-154-080		C-CAP, S 10P-50 CH
C836	87-010-312-080		C-CAP, S 15P-50 CH
C837	87-010-312-080		C-CAP, S 15P-50 CH
C840	87-010-197-080		C-CAP, S 0.01-25 B
C843	87-010-146-080		C-CAP, S 2P-50 CH
C851	87-010-197-080		C-CAP, S 0.01-25 B
C871	87-010-197-080		C-CAP, S 0.01-25 B
C872	87-010-178-080		C-CAP, S 1000P-50 B
C901	87-010-402-080		CAP, E 2.2-50 SME〈450G〉
C902	87-010-178-080		C-CAP, S 1000P-50 B〈450G〉
C903	87-010-178-080		C-CAP, S 1000P-50 B〈450G〉
C904	87-010-184-080		C-CAP, S 3300P-50 B〈450G〉
C905	87-010-177-080		C-CAP, S 820P-50 SL〈450G〉
C906	87-010-178-080		C-CAP, S 1000P-50 B〈450G〉
C907	87-010-185-080		C-CAP, S 3900P-50 B〈450G〉
C909	87-010-175-080		C-CAP, S 560P-50 SL〈450G〉
C910	87-010-176-080		C-CAP, S 680P-50 SL〈450G〉
C911	87-010-196-080		C-CAP, S 0.1-25 F〈450G〉
C918	87-010-186-080		C-CAP, S 4700P-50 B〈450G〉
C920	87-010-374-080		CAP, E 47-10〈450G〉
C921	87-010-263-080		CAP, E 100-10〈450G〉
C922	87-010-196-080		C-CAP, S 0.1-25 F〈450G〉
C923	87-010-154-080		C-CAP, S 10P-50 CH〈450G〉
C924	87-010-154-080		C-CAP, S 10P-50 CH〈450G〉
C941	87-010-197-080		C-CAP, S 0.01-25 B
C942	87-010-311-080		C-CAP, S 12P-50 CH
C944	87-010-154-080		C-CAP, S 10P-50 CH
C945	87-014-050-080		CAP, PP 510P-100 J
C946	87-010-401-080		CAP, E 1-50 SME
C947	87-010-197-080		C-CAP, S 0.01-25 B
C948	87-010-401-080		CAP, E 1-50 SME
C949	87-010-196-080		C-CAP, S 0.1-25 F
C950	87-010-322-080		C-CAP, S 100P-50 CH
C981	87-018-134-080		CAP, TC-U 0.01-16 Y
C983	87-010-544-080		CAP, E 0.1-50
C984	87-010-196-080		C-CAP, S 0.1-25 F
C985	87-010-196-080		C-CAP, S 0.1-25 F
C987	87-010-197-080		C-CAP, S 0.01-25 B
C988	87-010-196-080		C-CAP, S 0.1-25 F
C989	87-018-134-080		CAP, TC-U 0.01-16 Y
C990	87-010-197-080		C-CAP, S 0.01-25 B
CF801	87-008-423-010		CF, SFE10.7 MS3G-A
CF802	87-785-747-010		CF, SFE10.7 MS2GHY, R
D801	87-002-730-080		VARI-CAP, SVC203SPA
D802	87-002-730-080		VARI-CAP, SVC203SPA
D803	87-002-730-080		VARI-CAP, SVC203SPA
D804	87-002-730-080		VARI-CAP, SVC203SPA
J250	87-049-855-010		JACK, 6.3 W/S
J253	87-099-474-010		JACK, PIN 3P BLK
J254	87-033-226-010		TERMINAL, SP 4P (JT)
J652	80-MT3-616-010		JACK, PIN 2P
J801	87-033-230-010		TERMINAL, ANT AJ-2016
L201	87-005-366-010		COIL, 1UH
L202	87-005-366-010		COIL, 1UH
L401	87-005-580-080		COIL, 10MHJ
L402	87-005-580-080		COIL, 10MHJ
L403	82-231-622-080		COIL, 22MH-J
L404	82-231-622-080		COIL, 22MH-J
L451	87-007-300-010		COIL, OSC BIAS 85K
L701	81-631-643-010		COIL, 1 POLE MPX
L702	81-631-643-010		COIL, 1 POLE MPX
L741	87-006-253-010		COIL, FM DET N
L742	82-NT1-684-010		FLTR, PCFMT-060 2NT
L770	87-003-102-080		COIL, 10UH
L801	87-006-249-010		COIL, ANT FM 3/4TS, L4
L802	87-006-254-010		COIL, ANT FM2-3/4TS, S
L803	87-006-244-010		COIL, RF FM 3-1/2T, L4
L804	87-006-250-010		COIL, RF FM3-1/2TS, L4
L805	87-003-098-080		COIL, 2.2UH
L806	87-008-427-010		COIL, FMIFT (4T)
L807	87-006-205-010		COIL, OSC FM (7K)
L831	87-006-250-010		COIL, RF FM3-1/2TS, L4
L832	87-003-098-080		COIL, 2.2UH
L941	87-006-208-010		COIL, ANT LW
L942	87-007-305-010		COIL, OSC LW S
L981	81-MX4-619-010		AM PACK 4
R105	87-022-050-080		RES, METAL 1W-0.22J
R106	87-022-050-080		RES, METAL 1W-0.22J
R203	87-022-184-080		RES, METAL 0.33-1W
R204	87-022-184-080		RES, METAL 0.33-1W
RY102	87-045-335-010		RELAY, G5Z-2A 12VDC〈450G, AP1〉
SFR351	87-024-349-080		SFR, 1K DIA6 H
SFR352	87-024-349-080		SFR, 1K DIA6 H
SFR401	87-024-349-080		SFR, 1K DIA6 H
SFR402	87-024-349-080		SFR, 1K DIA6 H
SFR451	87-024-356-080		SFR, 47K DIA6 H
SFR452	87-024-356-080		SFR, 47K DIA6 H
SFR722	87-024-352-080		SFR, 4.7K DIA6 H〈450G〉
SFR722	87-024-651-080		SFR, 6.8K DIA6 V〈EXCEPT 450G〉
SFR771	87-024-354-080		SFR, 22K DIA6 H
TC701	87-011-221-080		TRIMMER, 30P VCT51
TC801	87-011-219-080		CAP TRIMMER 10P VCT
TC802	87-011-219-080		CAP TRIMMER 10P VCT
TC803	87-011-219-080		CAP TRIMMER 10P VCT
TC942	87-011-221-080		TRIMMER, 30P VCT51
VR651	83-NF5-639-010		VR, 50KBX2 RK14K12A0
W101	83-NE2-618-010		F-CABEL, 5P-2.5
X703	84-508-618-010		VIB, CER CSB 456 F15
X721	87-030-163-010		VIB, XTAL 7.2MHZ(NDK)
X901	87-030-348-080		VIB, CER 16.0MHZ CST〈450G〉

FRONT C.B

C201	87-010-404-040		CAP, E 4.7-50 SME
C202	87-010-404-040		CAP, E 4.7-50 SME
C203	87-010-408-040		CAP, E 47-50 SME
C204	87-010-196-080		C-CAP, S 0.1-25 F
C205	87-010-264-040		CAP, E 100-10 5L
C206	87-016-088-040		CAP, E 220-6.3
C207	87-010-071-040		CAP, E 1-50 5L
C208	87-015-785-080		C-CAP, 0.1-25 F
C212	87-010-405-040		CAP, E 10-50 SME
C213	87-010-196-080		C-CAP, S 0.1-25 F
C214	87-010-196-080		C-CAP, S 0.1-25 F
C215	87-010-196-080		C-CAP, S 0.1-25 F
C302	87-010-197-080		C-CAP, S 0.01-25 B
C381	87-010-196-080		C-CAP, S 0.1-25 F
C382	87-010-196-080		C-CAP, S 0.1-25 F
C383	87-010-196-080		C-CAP, S 0.1-25 F
C389	87-010-154-080		C-CAP, S 10P-50 CH
C401	87-015-785-080		C-CAP, 0.1-25 F
C402	87-010-196-080		C-CAP, S 0.1-25 F
C403	87-010-196-080		C-CAP, S 0.1-25 F

REF. NO	PART NO.	カンリ NO.	DESCRIPTION
C501	87-010-384-040		CAP, E 100-25 SME
C701	87-010-175-080		C-CAP, S 560P-50 SL
C702	87-010-175-080		C-CAP, S 560P-50 SL
C703	87-010-154-080		C-CAP, S 10P-50 CH
C704	87-010-154-080		C-CAP, S 10P-50 CH
C705	87-012-154-080		C-CAP, S 150P-50 CH
C706	87-012-154-080		C-CAP, S 150P-50 CH
C707	87-010-220-080		C-CAP, S 0.018-25 B
C708	87-010-220-080		C-CAP, S 0.018-25 B
C709	87-010-186-080		C-CAP, S 4700P-50 B
C710	87-010-186-080		C-CAP, S 4700P-50 B
C711	87-012-140-080		C-CAP, S 470P-50 CH
C712	87-012-140-080		C-CAP, S 470P-50 CH
C713	87-010-213-080		C-CAP, S 0.015-25 B
C714	87-010-213-080		C-CAP, S 0.015-25 B
C715	87-010-318-080		C-CAP, S 47P-50 CH
C716	87-010-318-080		C-CAP, S 47P-50 CH
C717	87-010-178-080		C-CAP, S 1000P-50 B
C718	87-010-178-080		C-CAP, S 1000P-50 B
C719	87-010-176-080		C-CAP, S 680P-50 SL
C720	87-010-176-080		C-CAP, S 680P-50 SL
C729	87-010-264-040		CAP, E 100-10 5L
C730	87-010-384-040		CAP, E 100-25 SME
C901	87-010-248-040		CAP, E 220-10 SME〈450G, AP1〉
C902	87-010-384-040		CAP, E 100-25 SME〈450G, AP1〉
C903	87-010-186-080		C-CAP, S 4700P-50 B〈450G, AP1〉
C904	87-010-322-080		C-CAP, S 100P-50 CH〈450G, AP1〉
C905	87-010-401-040		CAP, E 1-50 SME〈450G, AP1〉
C906	87-010-187-080		C-CAP, S 5600P-50 B〈450G, AP1〉
C907	87-010-193-080		C-CAP, S 0.033-25 F〈450G, AP1〉
C908	87-010-544-040		CAP, E 0.1-50 SME〈450G, AP1〉
C909	87-010-188-080		C-CAP, S 6800P-50 B〈450G, AP1〉
C910	87-012-365-080		C-CAP, S 0.027-25V BK〈450G, AP1〉
C911	87-010-263-040		CAP, E 100-10〈450G, AP1〉
C912	87-010-196-080		C-CAP, S 0.1-25 F〈450G, AP1〉
C913	87-010-316-080		C-CAP, S 33P-50 CH〈450G, AP1〉
C914	87-010-177-080		C-CAP, S 820P-50 SL〈450G, AP1〉
C915	87-010-316-080		C-CAP, S 33P-50 CH〈450G, AP1〉
C916	87-010-177-080		C-CAP, S 820P-50 SL〈450G, AP1〉
C917	87-010-179-080		C-CAP, S 1200P-50 B〈450G, AP1〉
C918	87-010-196-080		C-CAP, S 0.1-25 F〈450G, AP1〉
C919	87-010-260-040		CAP, E 47-25 SME〈450G, AP1〉
C920	87-010-400-040		CAP, E 0.47-50〈450G, AP1〉
C921	87-010-400-040		CAP, E 0.47-50〈450G, AP1〉
C922	87-010-196-080		C-CAP, S 0.1-25 F〈450G, AP1〉
C923	87-010-187-080		C-CAP, S 5600P-50 B〈450G, AP1〉
C924	87-010-179-080		C-CAP, S 1200P-50 B〈450G, AP1〉
C925	87-010-198-080		C-CAP, S 0.022-25 B〈450G, AP1〉
C926	87-010-196-080		C-CAP, S 0.1-25 F〈450G, AP1〉
C927	87-010-181-080		C-CAP, S 1800P-50 B〈450G, AP1〉
C928	87-010-181-080		C-CAP, S 1800P-50 B〈450G, AP1〉
C929	87-010-382-040		CAP, E 22-25 SME〈450G, AP1〉
C930	87-010-196-080		C-CAP, S 0.1-25 F〈450G, AP1〉
C931	87-010-402-040		CAP, E 2.2-50 SME〈450G, AP1〉
C932	87-010-402-040		CAP, E 2.2-50 SME〈450G, AP1〉
C941	87-010-197-080		C-CAP, S 0.01-25 B〈450G, AP1〉
C942	87-010-197-080		C-CAP, S 0.01-25 B〈450G, AP1〉
FL101	83-NF5-630-010		FL, BJ238GK〈450G〉
FL101	83-NFJ-602-010		FL, BL289GK〈EXCEPT 450G〉
FT102	82-NF5-651-010		CABLE FFC 14P-1.25
L901	87-005-490-080		COIL, 270UH J FLR50〈450G, AP1〉
LED401	87-017-784-080		LED, SEL 1550CM TP8
LED402	87-017-784-080		LED, SEL 1550CM TP8
LED403	87-017-784-080		LED, SEL 1550CM TP8
LED404	87-017-784-080		LED, SEL 1550CM TP8
LED405	87-017-784-080		LED, SEL 1550CM TP8
LED406	87-017-784-080		LED, SEL 1550CM TP8
LED420	87-017-733-080		LED, SEL1250SM
LED421	87-017-733-080		LED, SEL1250SM
LED422	87-017-733-080		LED, SEL1250SM
LED423	87-017-733-080		LED, SEL1250SM
LED424	87-017-350-080		LED, SEL1550CM
LED425	87-017-350-080		LED, SEL1550CM
LED426	87-017-350-080		LED, SEL1550CM
LED427	87-017-350-080		LED, SEL1550CM
LED441	83-NF8-634-080		LED, SEL2210S TP6〈450G, AP1〉
LED442	83-NF8-634-080		LED, SEL2210S TP6〈450G, AP1〉
LED443	83-NF8-634-080		LED, SEL2210S TP6〈450G, AP1〉
S303	87-036-215-080		SW, TACT EVQ21404M
S304	87-036-215-080		SW, TACT EVQ21404M
S305	87-036-215-080		SW, TACT EVQ21404M
S306	87-036-215-080		SW, TACT EVQ21404M
S321	87-036-215-080		SW, TACT EVQ21404M
S322	87-036-215-080		SW, TACT EVQ21404M
S323	87-036-215-080		SW, TACT EVQ21404M
S324	87-036-215-080		SW, TACT EVQ21404M
S325	87-036-215-080		SW, TACT EVQ21404M
S326	87-036-215-080		SW, TACT EVQ21404M
S327	87-036-215-080		SW, TACT EVQ21404M
S328	87-036-215-080		SW, TACT EVQ21404M
S329	87-036-215-080		SW, TACT EVQ21404M
S330	87-036-215-080		SW, TACT EVQ21404M〈450G, AP1〉
S331	87-036-215-080		SW, TACT EVQ21404M〈450G, AP1〉
S332	87-036-215-080		SW, TACT EVQ21404M〈450G, AP1〉
S341	87-036-215-080		SW, TACT EVQ21404M
S342	87-036-215-080		SW, TACT EVQ21404M
S343	87-036-215-080		SW, TACT EVQ21404M
S344	87-036-215-080		SW, TACT EVQ21404M
S345	87-036-215-080		SW, TACT EVQ21404M
S346	87-036-215-080		SW, TACT EVQ21404M
S347	87-036-215-080		SW, TACT EVQ21404M
S348	87-036-215-080		SW, TACT EVQ21404M〈EXCEPT AP1〉
W302	83-NF8-613-010		F-CABLE 2P-2.0 KEY
W303	83-NF8-612-010		F-CABLE 8P-2.0 MIC
X201	87-030-345-080		VIB, CER CST 5.76MGW

3CD C.B

C1	87-010-188-080	C-CAP, S 6800P-50 B
C2	87-010-196-080	C-CAP, S 0.1-25 F
C3	87-010-196-080	C-CAP, S 0.1-25 F
C4	87-010-196-080	C-CAP, S 0.1-25 F
C5	87-010-404-080	CAP, E 4.7-50 SME
C6	87-010-594-080	C-CAP, S 0.033-16 RK
C7	87-010-197-080	C-CAP, S 0.01-25 B
C8	87-010-403-080	CAP, E 3.3-50 SME
C9	87-010-382-080	CAP, E 22-25 SME
C10	87-010-260-080	CAP, E 47-25 SME
C11	87-010-197-080	C-CAP, S 0.01-25 B
C12	87-010-193-080	C-CAP, S 0.033-25 F
C13	87-010-197-080	C-CAP, S 0.01-25 B
C14	87-010-193-080	C-CAP, S 0.033-25 F
C15	87-010-182-080	C-CAP, S 2200P-50 B
C21	87-010-198-080	C-CAP, S 0.022-25 B
C22	87-010-196-080	C-CAP, S 0.1-25 F
C23	87-010-263-080	CAP, E 100-10
C24	87-010-178-080	C-CAP, S 1000P-50 B
C25	87-010-197-080	C-CAP, S 0.01-25 B
C26	87-010-260-080	CAP, E 47-25 SME
C27	87-010-196-080	C-CAP, S 0.1-25 F
C28	87-010-263-080	CAP, E 100-10
C29	87-010-197-080	C-CAP, S 0.01-25 B
C30	87-010-196-080	C-CAP, S 0.1-25 F
C31	87-010-193-080	C-CAP, S 0.033-25 F
C33	87-010-196-080	C-CAP, S 0.1-25 F
C34	87-010-197-080	C-CAP, S 0.01-25 B
C35	87-010-381-080	CAP, E 330-16 SME
C36	87-010-196-080	C-CAP, S 0.1-25 F
C37	87-010-260-080	CAP, E 47-25 SME
C38	87-010-197-080	C-CAP, S 0.01-25 B

REF. NO	PART NO.	ｶﾝﾘ NO.	DESCRIPTION
C39	87-010-260-080		CAP, E 47-25 SME
C40	87-010-197-080		C-CAP, S 0.01-25 B
C41	87-010-146-080		C-CAP, S 2P-50 CH
C42	87-010-154-080		C-CAP, S 10P-50 CH
C45	87-018-209-080		CAP, TC-U 0.1-50 F
C101	87-010-194-080		C-CAP, S 0.047-25 F
C102	87-010-180-080		C-CAP, S 1500P-50 B
C103	87-010-263-080		CAP, E 100-10
C104	87-010-197-080		C-CAP, S 0.01-25 B
C105	87-010-186-080		CHIP CAP 4700P-50 B
C106	87-012-156-080		C-CAP, S 220P-50 CH
C107	87-010-197-080		C-CAP, S 0.01-25 B
C108	87-010-400-080		CAP, E 0.47-50 SME
C112	87-010-154-080		C-CAP, S 10P-50 CH
C113	87-010-154-080		C-CAP, S 10P-50 CH
C114	87-010-314-080		C-CAP, S 22P-50 CH
C115	87-010-404-080		CAP, E 4.7-50 SME
C116	87-010-263-080		CAP, E 100-10
C117	87-010-194-080		C-CAP, S 0.047-25 F
C118	87-010-154-080		C-CAP, S 10P-50 CH
C120	87-010-263-080		CAP, E 100-10
C121	87-010-197-080		C-CAP, S 0.01-25 B
C122	87-010-196-080		C-CAP, S 0.1-25 F
C201	87-012-153-080		C-CAP, S 120P-50 CH
C202	87-012-153-080		C-CAP, S 120P-50 CH
C203	87-012-153-080		C-CAP, S 120P-50 CH
C204	87-012-153-080		C-CAP, S 120P-50 CH
C205	87-012-153-080		C-CAP, S 120P-50 CH
C206	87-012-153-080		C-CAP, S 120P-50 CH
C207	87-012-153-080		C-CAP, S 120P-50 CH
C208	87-012-153-080		C-CAP, S 120P-50 CH
C209	87-012-153-080		C-CAP, S 120P-50 CH
C210	87-012-153-080		C-CAP, S 120P-50 CH
C211	87-010-401-080		CAP, E 1-50 SME
C212	87-010-401-080		CAP, E 1-50 SME
C213	87-010-186-080		C-CAP, S 4700P-50 B
C214	87-010-186-080		C-CAP, S 4700P-50 B
C231	87-010-263-080		CAP, E 100-10
C232	87-010-263-080		CAP, E 100-10
C301	87-010-178-080		C-CAP, S 1000P-50 B
C302	87-010-404-080		CAP, E 4.7-50 SME
C304	87-010-197-080		C-CAP, S 0.01-25 B
C305	87-010-381-080		CAP, E 330-16 SME
C306	87-010-198-080		C-CAP, S 0.022-25 B
C307	87-010-178-080		C-CAP, S 1000P-50 B
C308	87-010-178-080		C-CAP, S 1000P-50 B
C310	87-018-184-080		CAP, TC-U 0.01-16 Y〈EXCEPT 450G〉
C312	87-010-196-080		C-CAP, S 0.1-25 F〈EXCEPT 450G〉
C313	87-010-196-080		C-CAP, S 0.1-25 F〈EXCEPT 450G〉
C315	87-010-178-080		C-CAP, S 1000P-50 B〈450G〉
C320	87-018-184-080		CAP, TC-U 0.01-16 Y〈450GEZ, EEZ〉
C801	87-010-197-080		C-CAP, S 0.01-25 B〈450G〉
C802	87-010-260-080		CAP, E 47-25 SME〈450G〉
C803	87-010-405-080		CAP, E 10-50 SME〈450G〉
C804	87-010-405-080		CAP, E 10-50 SME〈450G〉
C805	87-010-405-080		CAP, E 10-50 SME〈450G〉
C806	87-010-197-080		C-CAP, S 0.01-25 B〈450G〉
C807	87-010-313-080		C-CAP, S 18P-50 CH〈450G〉
C808	87-010-313-080		C-CAP, S 18P-50 CH〈450G〉
C809	87-010-314-080		C-CAP, S 22P-50 CH〈450G〉
C810	87-010-313-080		C-CAP, S 18P-50 CH〈450G〉
C811	87-010-401-080		CAP, E 1-50 SME〈450G〉
C812	87-010-197-080		C-CAP, S 0.01-25 B〈450G〉
C813	87-010-260-080		CAP, E 47-25 SME〈450G〉
C814	87-010-248-080		CAP, E 220-10 SME〈450G〉
C815	87-010-196-080		C-CAP, S 0.1-25 F〈450G〉
C816	87-010-260-080		CAP, E 47-25 SME〈450G〉
C817	87-010-260-080		CAP, E 47-25 SME〈450G〉
C818	87-010-197-080		C-CAP, S 0.01-25 B〈45GK〉
C819	87-010-196-080		C-CAP, S 0.1-25 F〈450G〉

REF. NO	PART NO.	ｶﾝﾘ NO.	DESCRIPTION
C820	87-010-196-080		C-CAP, S 0.1-25 F〈450G〉
C822	87-012-140-080		C-CAP, 470P-50 CH〈450G〉
C823	87-010-322-080		C-CAP, S 100P-50 CH〈450GEZ, EEZ〉
C824	87-010-197-080		C-CAP, S 0.01-25 B〈450GEZ, EEZ〉
C825	87-010-322-080		C-CAP, S 100P-50 CH〈450GEZ, EEZ〉
C826	87-010-197-080		C-CAP, S 0.01-25 B〈450GEZ, EEZ〉
EMI801	87-008-474-080		F-BEAD, EMI BL02RN1〈450G〉
EMI802	87-008-474-080		F-BEAD, EMI BL02RN1〈450G〉
J801	87-009-502-010		JACK, PIN 1P Y EARTH〈450G〉
L1	87-003-295-080		COIL, 10UH
L801	87-003-149-080		COIL, 47UH〈450G〉
M301	87-045-305-010		MOTOR, RF-500TB
SFR1	87-024-176-080		SFR, 100K DIA6 V
SFR2	87-024-173-080		SFR, 22K DIA6 V
SFR3	87-024-176-080		SFR, 100K DIA6 V
W301	83-NF5-631-010		F-CABLE, 6-2.0 300
W501	83-NF5-644-010		F-CABLE 2-2.0-230
X101	87-030-227-080		VIB, XTAL 33.8688MHZ
X801	80-JUC-604-080		VIB, XTAL 17.734475MHZ〈450G〉
X802	80-JUC-603-080		VIB, XTAL 14.31818MHZ〈450G〉

MIC C.B

C604	87-010-183-080		C-CAP, S 2700P-50 B
C606	87-010-400-040		CAP, E 0.47-50
C607	87-010-178-080		C-CAP, S 1000P-50 B
C608	87-010-075-040		CAP, E 10-16 5L
C609	87-010-196-080		C-CAP, S 0.1-25 F
C610	87-012-145-080		C-CAP S 270P-50CH
C612	87-010-322-080		C-CAP, S 100P-50 CH
C613	87-010-196-080		C-CAP, S 0.1-25 F
C624	87-010-183-080		C-CAP, S 2700P-50 B
C626	87-010-400-040		CAP, E 0.47-50
C627	87-010-178-080		C-CAP, S 1000P-50 B
C630	87-010-075-040		CAP, E 10-16 5L
C640	87-010-075-040		CAP, E 10-16 5L
C644	87-010-071-040		CAP, E 1-50 5L
C645	87-010-263-040		CAP, E 100-10
C646	87-010-196-080		C-CAP, S 0.1-25 F
C647	87-010-196-080		C-CAP, S 0.1-25 F
C648	87-010-196-080		C-CAP, S 0.1-25 F
J601	82-NF7-630-010		JACK, 3.5 MO
J621	82-NF7-630-010		JACK, 3.5 MO
S307	87-036-215-080		SW, TACT EVQ21404M〈450G, AP1〉
S308	87-036-215-080		SW, TACT EVQ21404M
S310	87-036-215-080		SW, TACT EVQ21404M〈450G〉
S311	87-036-215-080		SW, TACT EVQ21404M〈450G〉
S312	87-036-215-080		SW, TACT EVQ21404M〈EXCEPT 450G〉
S390	87-036-215-080		SW, TACT EVQ21404M〈450G〉
VR601	82-NK7-616-010		VR, 10KB RK11K1130〈450G, AP1〉
VR602	82-NK7-615-010		VR, 10KA RK11K1130

MVR C.B

C721	87-010-402-080		CAP, E 2.2-50 SME
C722	87-010-402-080		CAP, E 2.2-50 SME
C738	87-010-370-080		CAP, E 330-6.3 SME
C741	87-010-198-080		C-CAP, S 0.022-25 B
C747	87-010-401-080		CAP, E 1-50 SME
C748	87-010-401-080		CAP, E 1-50 SME
C750	87-010-381-080		CAP, E 330-16 SME
MVR741	83-NF8-609-010		VR, 50KBX2 (M)

KEY C.B

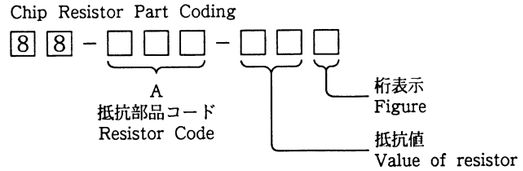
S349	87-036-215-080		SW, TACT EVQ21404M
S350	87-036-215-080		SW, TACT EVQ21404M
S351	87-036-215-080		SW, TACT EVQ21404M
S352	87-036-215-080		SW, TACT EVQ21404M
S353	87-036-215-080		SW, TACT EVQ21404M

REF. NO	PART NO.	ｶﾝﾘ NO.	DESCRIPTION
SNSR C.B			
PH401	87-026-573-010		P-SNSR, GP1S53V
MOTOR-1 C.B			
C314	87-010-196-080		C-CAP, S 0.1-25 F〈EXCEPT 450G〉
M302	87-045-305-010		MOTOR, RF-500TB
U/D C.B			
SW601	87-036-271-010		SW, LVR 1-2-2 (*)
OPEN SW C.B			
SW602	87-036-271-010		SW, LVR 1-2-2 (*)
CLOSE SW C.B			
SW701	87-036-109-010		SW, PUSH SPPB 61
LED C.B			
LED902	87-017-806-010		LED, SEL1810DM
LED903	87-017-350-080		LED, SEL1550CM
LED904	87-017-350-080		LED, SEL1550CM
LED905	87-017-806-010		LED, SEL1810DM
MOTOR-2 C.B			
M2	9X-262-513-210		SLED MOTOR
S4	91-572-085-110		LEAF SW

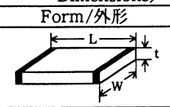
REF. NO	PART NO.	ｶﾝﾘ NO.	DESCRIPTION
AC2 C.B			
⚠PT1	83-MA2-622-010		PT, EK
AC1 C.B			
⚠	87-033-213-080		CLAMP, FUSE SMK
⚠	82-304-743-010		TERMINAL, 1P
⚠F101	87-035-360-010		FUSE, T630MA
DECK C.B			
SFR1	87-024-581-010		SFR, 3.3K DIA 6H KOA
SOL1	82-ZM1-618-310		SOL ASSY, 27
SW2	87-036-110-010		SW, PUSH SPPB 62
SW3	87-036-110-010		SW, PUSH SPPB 62
SW4	87-036-110-010		SW, PUSH SPPB 62
SW5	87-036-110-010		SW, PUSH SPPB 62
SW6	87-036-110-010		SW, PUSH SPPB 62
RELAY C.B			
TR-1 C.B			
TR-2 C.B〈450GK, 400K〉			

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

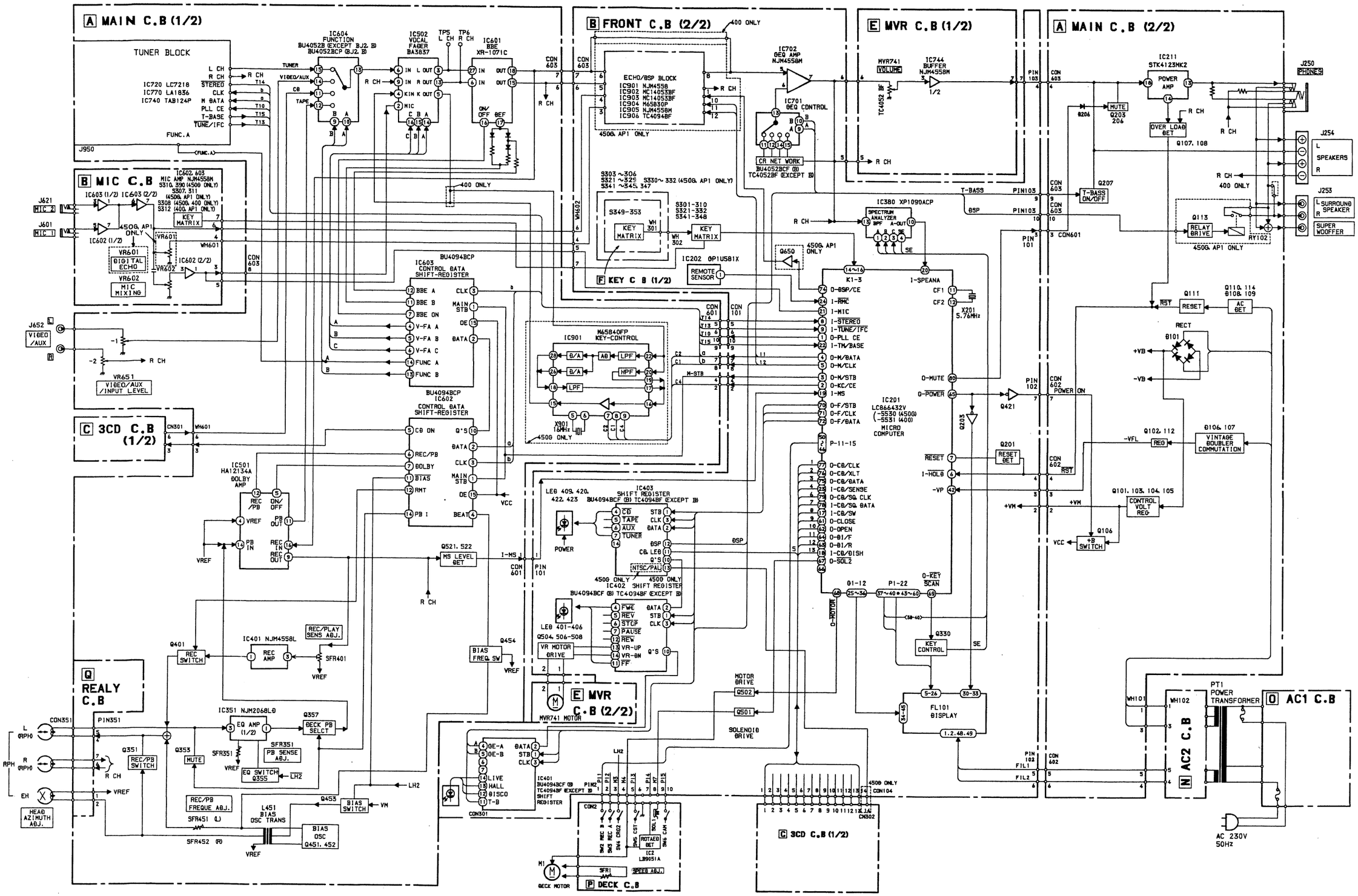
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



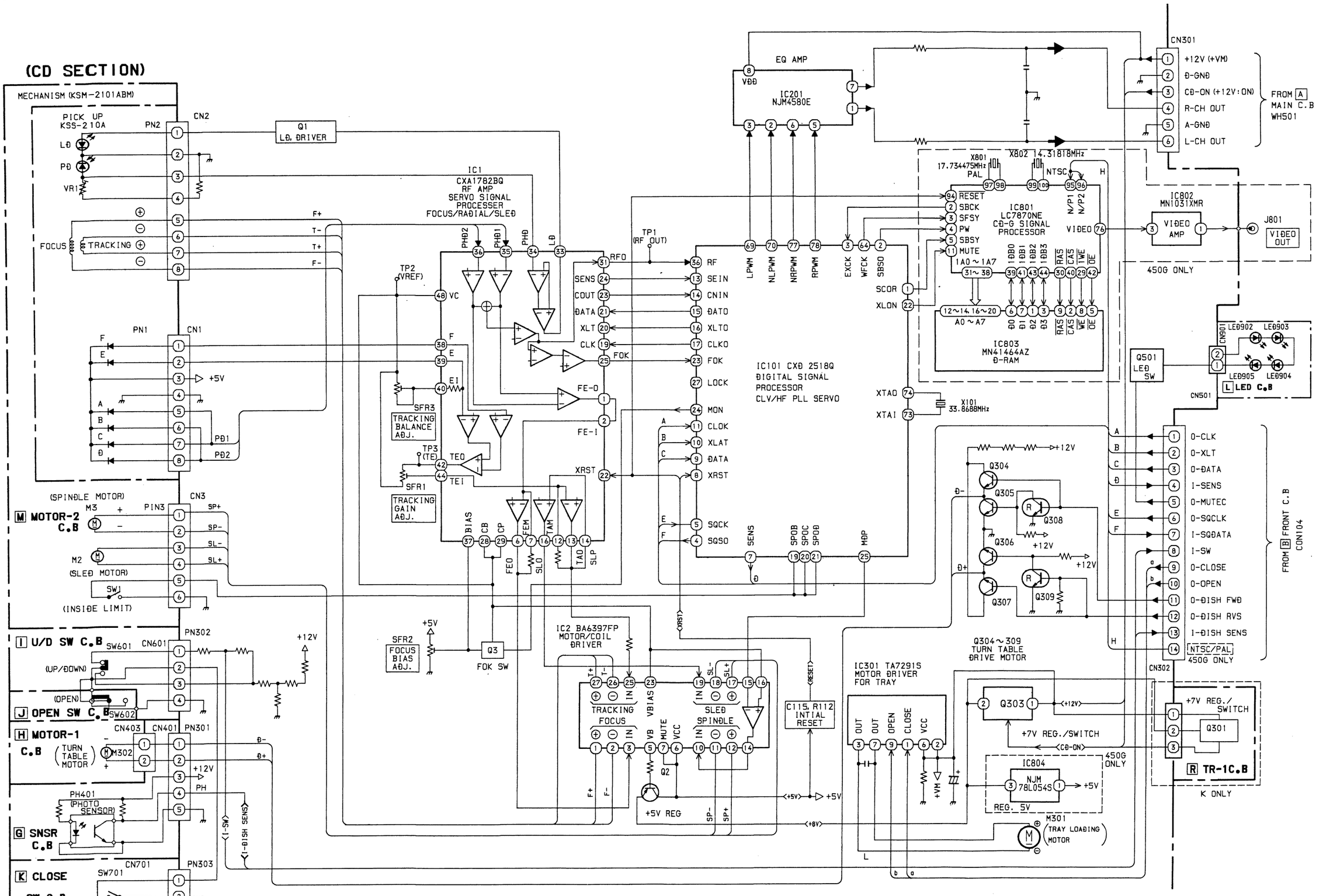
チップ抵抗
Chip resistor

Wattage 容量	Type 種類	Tolerance 許容誤差	Symbol 記号	Dimensions／寸法 (mm) Form/外形	L	W	t	Resistor Code : A 抵抗コード : A
1/32W	1608	±5%	CJ		1.6	0.8	0.35	108
1/10W	2125	±5%	CJ		2	1.25	1.45	118
1/8W	3126	±5%	CJ		3.2	1.6	0.5 ~0.7	128

BLOCK DIAGRAM – 1 (MAIN/FRONT)



BLOCK DIAGRAM – 2 (CD)



TUNER BLOCK<EE.K.EZ>

IC770 LA1836
AM FRONTENÐ
FM/AM:IF/ÐET

MW/LW LOOP
J801 ANTENNA
ΠF FM 75Ω (COAXIAL)
MW TRACKING AÐJ.
L981
AM PACK4
LW TRACKING AÐJ.
L941
L942
LW VT AÐJ.
RF BUFFER
Q961
TC942
Q941 SW SW Q942
BPF
BPF832
INVERTER
Q807
TP3
TP4 S-CURVE
REG
AM LO
AM RF
AM IFT
AM IF IN
L742
AM IF AÐJ.
X703 456KHz
VCO
LO
L701
L702
LI
RI
RO
S-CURVE *1
AM OSC
AM MIX
*2
AM IF
AGC
ÐECORÐER
ST SW
AM RF AMP
FM IF
FM ÐET
*2 BUFF
*1 TON ÐRV
AM IFO
L OUT
R OUT
STEREO
FM IF IN
FM/AM
IF BO
FM ÐET
AM SÐ AÐJ.
AM LBO
TUNE
MIX VCO
CF802 (10.7MHZ)
Q805
FM IF AMP
CF801 (10.7MHZ)
L741
SFR771
SFR722
TP2 (CLK)
+B
ÐC BALANCE AÐJ.
SFR771
AUTO STOP LEVEL AÐJ.
SFR722
Q771, 772 TU+B SWITCH
+VM
FUNC.A
TO MAIN BLOCK
TP7
L802~4, 831
TC801~3
FM TRACKING AÐJ.
L802
Ð801
L801
TC801
Q808 RF AMP
L803
Ð802
TC802
L831
TC803
Ð804
Q802 MIX
L806 FM IF
Q806 FM BANÐ SW
Q809 BUFFER
Q803 FM OSC
Q804 FM OSC BUFF.
L807
Ð803
FM VT AÐJ.
TP1 (VT)
Q701·Q702 PLL L.P.F.
IC720 LC7218 PLL
XO
XI
X721 7.2MHz
TC701 30P
TC701 CLOCK AÐJ.
18 AM-I
17 FM2
13 FM/AM
14 MW
19 FM I
21 EO
TUNE
IF IN
7 15 16
MUTE 10
ST 8
MOÐE 11
CLK 4
ÐI 3
PLL CE 2
T-BASE 9
ÐO 5
TUNE/IFC
PLL-CE
M-ÐATA
CLK
T-BASE
TO MAIN BLOCK

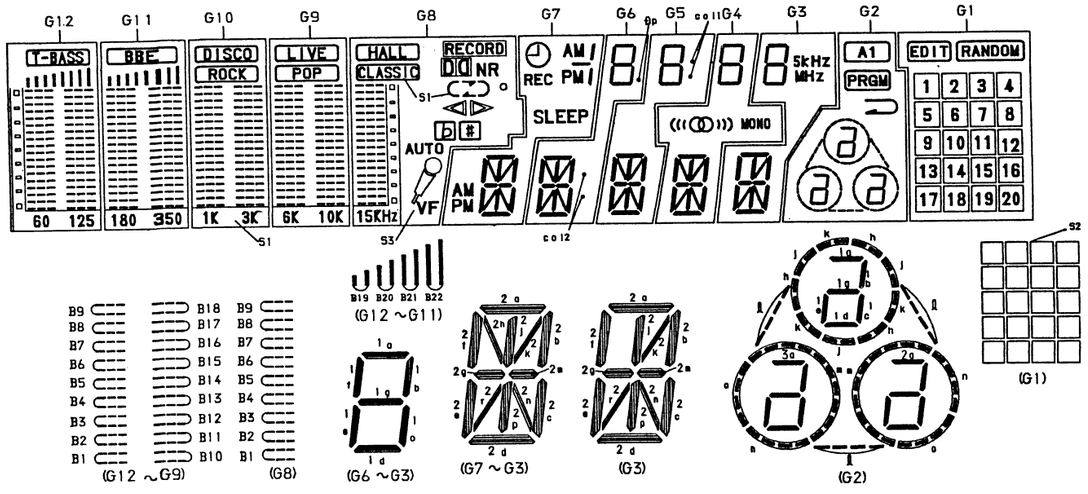
ECHO/DSP BLOCK

5 L IN
6 R IN
7 MIC-IN

IC901 NJM4558 SURROUNÐ AMP
2/2
1/2
SURROUNÐ BUFFER
IC902 (2/2)
FILTER CONTROL
C
IC902 (1/2) MC14053BF FILTER CONTROL
IC905 NJM4558M SURROUNÐ AMP
IC904 M65830P ÐIGITAL ÐELAY
AMP
MOÐ
ÐEM
ÐIGITAL ÐELAY
COMP
LPF
OSC
ÐELAY CONT
DATA
CLK
REQ
OSC CONT Q901, Q902
IC903 MC14053BF ÐELAY SELECTOR
IC906 TC4094BF
MOÐE<+>
ÐSP
QS
ECHO
REV-OFF
OSC-L
STB
DATA
CLK
L OUT 8
R OUT 1
ECHO OUT 3
M-ÐATA 11
ÐSP-CE 10
M-CLOCK 12

FL (BJ238GK) GRID ASSIGNMENT／ANODE CONNECTION < 450G >

GRID ASSIGNMENT

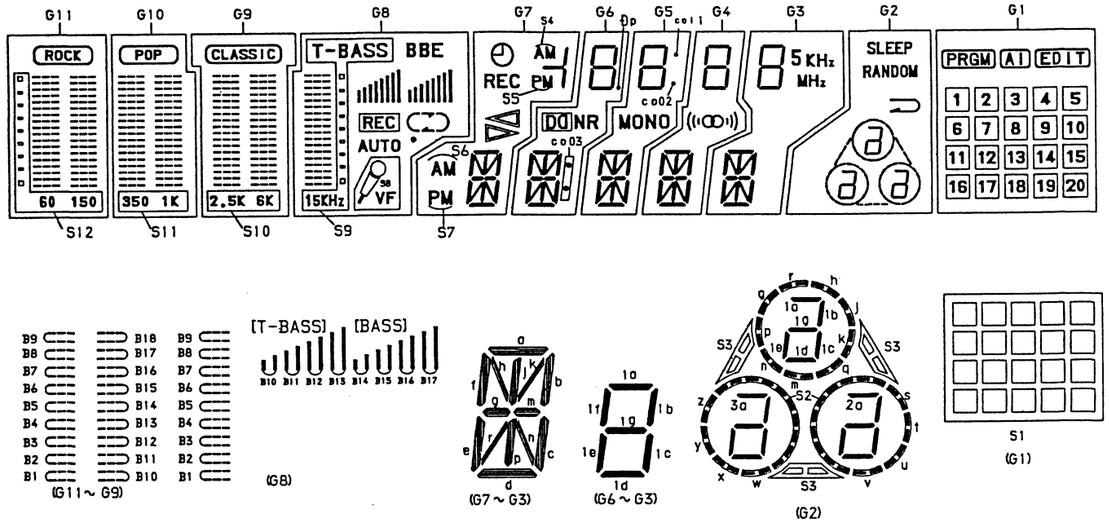


ANODE CONNECTION

	G12	G11	G10	G9	G8	G7	G6	G5	G4	G3	G2	G1
P1	B10	B10	B10	B10	S3	2d	2d	2d	2d	2d	n	**20**
P2	B1	B1	B1	B1	B1	2j ,2p	2j ,2p	2j ,2p	2j ,2p	2j ,2p	o	**19**
P3	B11	B11	B11	B11	**AUTO**	2n	2n	2n	2n	2n	3e	**18**
P4	B2	B2	B2	B2	B2	2r	2r	2r	2r	2r	3c	**17**
P5	B12	B12	B12	B12	(b)	2c	2c	2c	2c	2c	3a,3d,3g	**16**
P6	B3	B3	B3	B3	B3	2e	2e	2e	2e	2e	3b	**15**
P7	B13	B13	B13	B13	(#)	2m	2m	2m	2m	2m	2e	**14**
P8	B4	B4	B4	B4	B4	2g	2g	2g	2g	2g	2c	**13**
P9	B5	B5	B5	B5	B5	2f	2f	2f	2f	2f	2a,2d,2g	**12**
P10	B15	B15	B15	B15	▷	2b	2b	2b	2b	2b	l	**11**
P11	B6	B6	B6	B6	B6	2K	2K	2K	2K	2K	j	**10**
P12	B16	B16	B16	B16	◁	2h	2h	2h	2h	**MHz**	h	**9**
P13	B7	B7	B7	B7	B7	2a	2a	2a	2a	2a	k	**8**
P14	B14	B14	B14	B14	☽	**PM** (DOWN)	col 2	col1 (UP)	**MONO**	**KHz**	2b	**7**
P15	B17	B17	B17	B17	☾	**AM** (DOWN)	Dp	col1 (DOWN)	(((◎)))	**5**	1e	**6**
P16	B8	B8	B8	B8	B8	**SLEEP**	1d	1d	1d	1d	1a,1d,1g	**5**
P17	B18	B18	B18	B18	○	**REC**	1e	1e	1e	1e	1c	**4**
P18	B9	B9	B9	B9	B9	**PM** (UP)	1c	1c	1c	1c	1b	**3**
P19	B19 (T-BASS)	B19 (BBE)	(ROCK)	(POP)	DD NR	**AM** (UP)	1g	1g	1g	1g	m	**2**
P20	B20	B20	(DISCO)	(LIVE)	RECORD	—	1f	1f	1f	1f	A1	**1**
P21	B21	B21	—	—	(CLASSIC)	/	1b	1b	1b	1b	↩	EDIT
P22	B22	B22	—	—	(HALL)	🕘	1a	1a	1a	1a	PRGM	RANDOM
ST1	S1 **T-BASS**	S1	S1 **ROCK**	S1 **POP**	S1	—	—	—	—	—	—	S2
ST2	—	**BBE**	—	—	—	—	—	—	—	—	—	—
ST3	—	—	**DISCO**	**LIVE**	**HALL**	—	—	—	—	—	—	—
ST4	—	—	—	—	b #	—	—	—	—	—	—	—

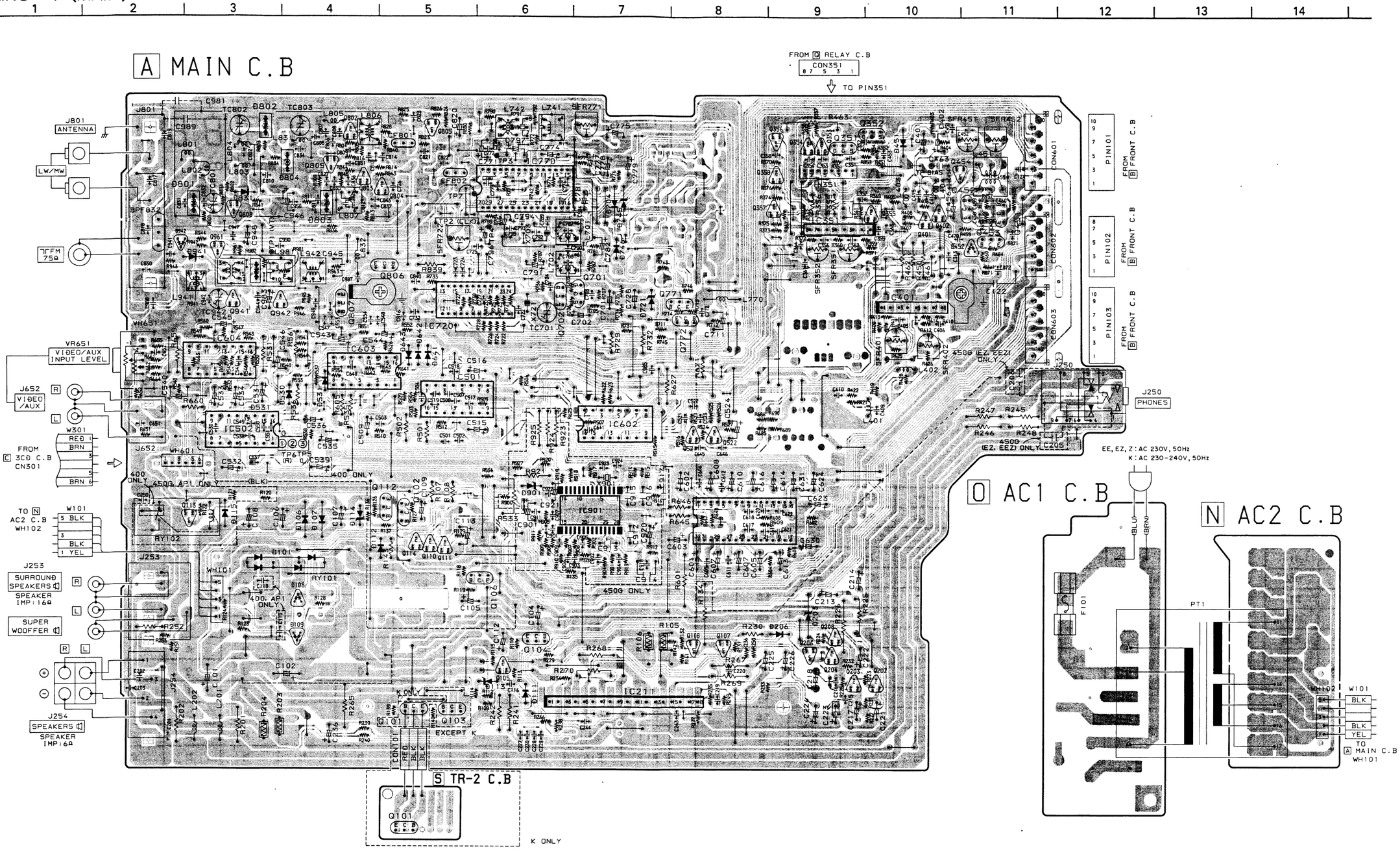
FL (BJ289GK) GRID ASSIGNMENT／ANODE CONNECTION < 400, AP1 >

GRID ASSIGNMENT

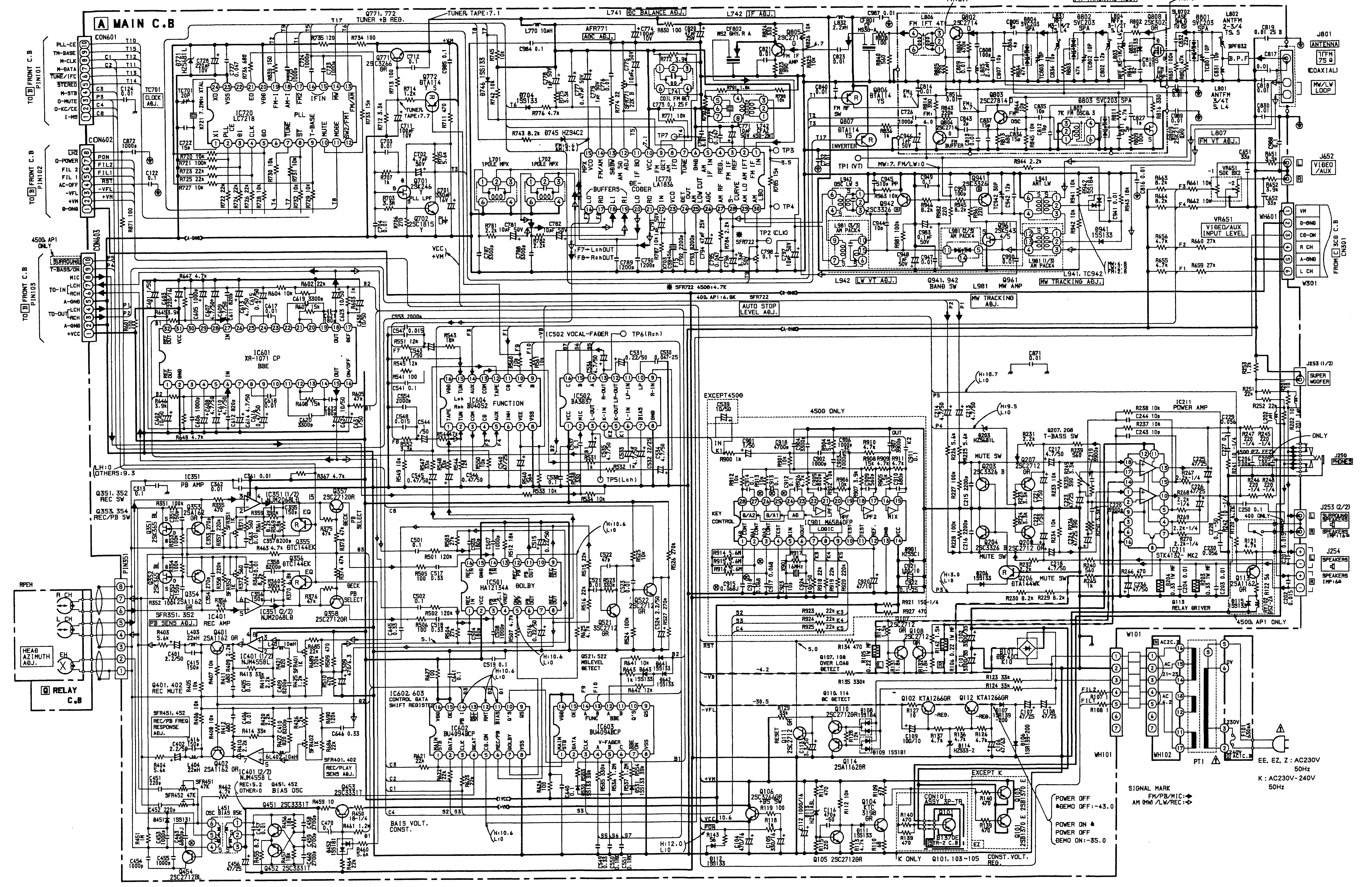


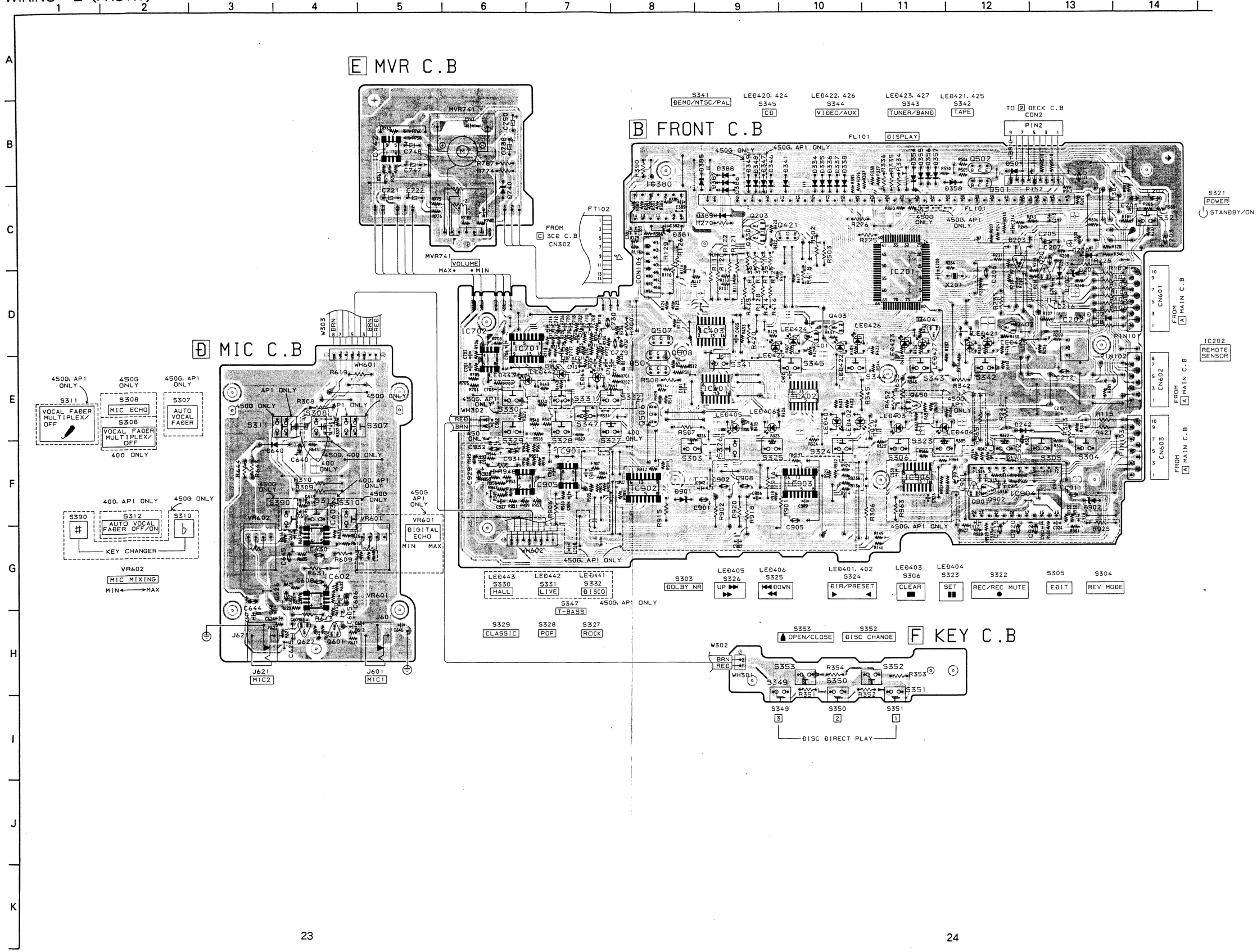
ANODE CONNECTION

	G11	G10	G9	G8	G7	G6	G5	G4	G3	G2	G1
P1	B10	B10	B10	☾	d	d	d	d	d	s, t w, x	**20**
P2	B1	B1	B1	B1	j, p	j, p	j, p	j, p	j, p	u, v y, z	**19**
P3	B11	B11	B11	S8	n	n	n	n	n	3e	**18**
P4	B2	B2	B2	B2	r	r	r	r	r	3c	**17**
P5	B12	B12	B12	☽	c	c	c	c	c	3a,3d,3g	**16**
P6	B3	B3	B3	B3	e	e	e	e	e	3b	**15**
P7	B13	B13	B13	○	m	m	m	m	m	2e	**14**
P8	B4	B4	B4	B4	g	g	g	g	g	2c	**13**
P9	B5	B5	B5	B5	f	f	f	f	f	2a,2d,2g	**11**
P10	B15	B15	B15	**AUTO**	b	b	b	b	b	S3	**10**
P11	B6	B6	B6	B6	k	k	k	k	k	j, m, q	**9**
P12	B16	B16	B16	B10	h	h	h	h	h	h, l, p	**8**
P13	B7	B7	B7	B7	a	a	a	a	a	k, n, r	**7**
P14	B14	B14	B14	REC	S7	col3	col1	—	**KHz**	2b	**12**
P15	B17	B17	B17	B11	S6	DD NR	**MONO**	(((◎)))	**5**	1e	**6**
P16	B8	B8	B8	B8	▷	Dp1	col2	—	**MHz**	1a,1d,1g	**5**
P17	B18	B18	B18	B12	◁	1d	1d	1d	1d	1c	**4**
P18	B9	B9	B9	B9	**REC**	1e	1e	1e	1e	1b	**3**
P19	▭	▭	▭	B13	S5	1c	1c	1c	1c	—	**2**
P20	—	—	—	B14	▬	1g	1g	1g	1g	S2	**1**
P21	—	—	—	B15	/	1f	1f	1f	1f	↩	EDIT
P22	—	—	—	B16	🕘	1b	1b	1b	1b	SLEEP	A1
ST1	**ROCK**	**POP**	**CLASSIC**	B17	S4	1a	1a	1a	1a	RANDOM	PRGM
ST2	S12	S11	S10	S9 Z	—	—	—	—	—	—	S1
ST3	—	—	—	**BBE**	—	—	—	—	—	—	—

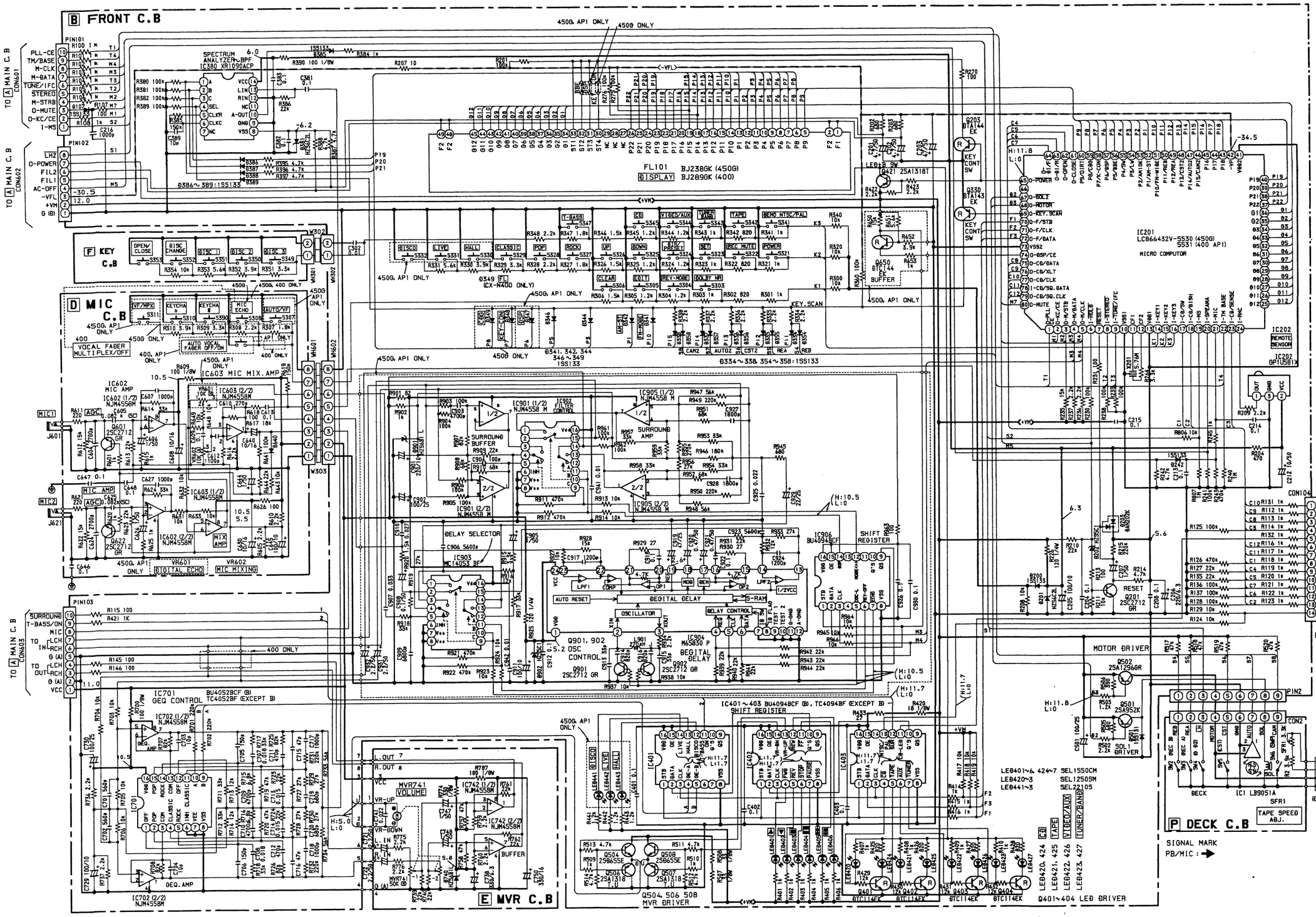

A MAIN C.B
FROM D RELAY C.B
CON351
TO PIN351
J801
ANTENNA
LW/MW
FFM 75Ω
VR651
VIDEO/AUX INPUT LEVEL
J652
VIDEO /AUX
W301
FROM C 3CD C.B CN301
TO N AC2 C.B WH102
J253
SURROUND SPEAKERS
SPEAKER IMP:16Ω
SUPER WOOFFER
J254
SPEAKERS
SPEAKER IMP:6Ω
FROM B FRONT C.B
PIN101
PIN102
PIN103
CON601
CON602
CON603
J250
PHONES
4500 (EZ, EEZ) ONLY
EE, EZ, Z : AC 230V, 50Hz
K : AC 230-240V, 50Hz
O AC1 C.B
N AC2 C.B
F101
PT1
(BLU)
(BRN)
WH102
W101
BLK
BLK
YEL
TO A MAIN C.B WH101
S TR-2 C.B
Q101
K ONLY
EXCEPT K
400 ONLY
4500 APL ONLY
4500 ONLY

SCHEMATIC DIAGRAM – 1 (MAIN)


A MAIN C.B
CON601
CON602
CON603
TO B FRONT C.B PIN101
TO B FRONT C.B PIN102
TO B FRONT C.B PIN103
450G, AP1 ONLY
Q771, 772 TUNER +B REG.
TUNER, TAPE:7.1
L741 DC BALANCE ADJ.
L742 IF ADJ.
AFR771 AGC ADJ.
TC701 CLOCK ADJ.
IC720 LC7218 PLL
IC770 LA1836
L701 1POLE MPX
L702 1POLE MPX
TP1 (VT)
TP2 (CLK)
TP3
TP4
TP7
SFR722 450G:4.7K
400, AP1:6.8K SFR722
AUTO STOP LEVEL ADJ.
L802~4, TC801~3 FM TRACKING ADJ.
L806 FM IFT 4T
Q802 2SC2714
Q808 2SK302 GR
Q803 2SC2781
Q804 2SC2714
Q806 DTA114 YS
Q807 DTA114 YS
INVERTER
FM BUFFER
BPF832 B.P.F
J801 ANTENNA
TFM 75 Ω (COAXIAL)
MW/LW LOOP
L801 ANTFM 3/4T S. L4
L802 ANTFM 2-3/4 TS. S
L807 FM VT ADJ.
L942 LW VT ADJ.
Q941, 942 BAND SW
L981
Q961 MW AMP
L941, TC942 MW TRACKING ADJ.
MW TRACKING ADJ.
J652 VIDEO /AUX
VR651 VIDEO/AUX INPUT LEVEL
WH601
FROM C 3CD C.B CN301
W301
IC601 XR-1071 CP BBE
IC604 BU4052 FUNCTION
IC502 BA3837
IC502 VOCAL-FADER
TP5(Lch)
TP6(Rch)
EXCEPT450G
450G ONLY
IC901 M65840FP
KEY CONTROL
IC211 POWER AMP
STK4132- MK2
Q207, 208 T-BASS SW
Q203 2SC3326 B
Q204 2SC3326 B
MUTE SW
Q206 DTA144WK
Q113 RELAY DRIVER
J253 (1/2) SUPER WOOFER
J253 (2/2) SURROUND SPEAKERS
J250 PHONES
J254 SPEAKERS IMP:6Ω
IC351 PB AMP
IC351 (1/2) NJM2068LD
IC351 (2/2) NJM2068LD
Q351, 352 REC SW
Q353, 354 REC/PB SW
Q355 DTC144EK
Q356 DTC144EK
Q357 2SC2712GR
Q358 2SC2712GR
PB SELECT
SFR351, 352 PB SENS ADJ.
IC401 REC AMP
IC401 (1/2) NJM4558L
IC401 (2/2) NJM4558 L
Q401 2SA1162 GR
Q402 2SA1162 GR
Q401, 402 REC MUTE
SFR451, 452 REC/PB FREQ RESPONSE ADJ.
SFR401, 402 REC/PLAY SENS ADJ.
Q451, 452 BIAS OSC
Q451 2SC3331T
Q452 2SC3331T
Q453 2SC3331T
Q454 2SC2712BL
L451 OSC BIAS BSK
BAIS VOLT. CONST.
RPEH
R CH
L CH
EH
HEAD AZIMUTH ADJ.
Q RELAY C.B
PIN351
IC501 HA12134A DOLBY
Q521, 522 MSLEVEL DETECT
IC602, 603 CONTROL DATA SHIFT REGISTER
IC602 BU4094BCP
IC603 BU4094BCP
Q106 2SC3266GR +B5 SW
Q107, 108 OVER LOAD DETECT
Q110, 114 DC DETECT
Q111 2SC2712 GR RESET
Q114 2SA1162GR
Q102 KTA1266GR
Q112 KTA1266GR
Q104 KTC 3198 GR
Q105 2SC2712GR
CON101 ASSY 3P-TR
K ONLY
EXCEPT K
Q101, 103~105 CONST. VOLT. REG.
POWER OFF &DEMO OFF:-43.0
POWER ON & POWER OFF DEMO ON:-35.0
W101
WH101
WH102
PT1
D101 DBF40C K10
F101 630mA
EE, EZ, Z : AC230V 50Hz
K : AC230V-240V 50Hz
SIGNAL MARK
FM/PB/MIC:➡
AM (MW) /LW/REC:⇨


E MVR C.B
MVR741
VOLUME
MAX
MIN
FROM C 3CB C.B CN302
FT102
B FRONT C.B
S341 DEMO/NTSC/PAL
LED420, 424 S345 CD
LED422, 426 S344 VIDEO/AUX
LED423, 427 S343 TUNER/BAND
LED421, 425 S342 TAPE
TO P DECK C.B CON2
PIN2
FL101 DISPLAY
450G ONLY
450G, AP1 ONLY
S321 POWER STANDBY/ON
IC202 REMOTE SENSOR
FROM A MAIN C.B CN601
FROM A MAIN C.B CN602
FROM A MAIN C.B CN603
D MIC C.B
W303
WH601
S311 VOCAL FADER MULTIPLEX/ OFF
S308 MIC ECHO
S308 VOCAL FADER MULTIPLEX/ OFF
400 ONLY
S307 AUTO VOCAL FADER
AP1 ONLY
S390
S312 AUTO VOCAL FADER OFF/ON
S310
KEY CHANGER
VR602 MIC MIXING
MIN ←→ MAX
VR601 DIGITAL ECHO
MIN MAX
J621 MIC2
J601 MIC1
LED443 S330 HALL
LED442 S331 LIVE
LED441 S332 DISCO
S347 T-BASS
S329 CLASSIC
S328 POP
S327 ROCK
S303 DOLBY NR
LED405 S326 UP
LED406 S325 DOWN
LED401, 402 S324 DIR/PRESET
LED403 S306 CLEAR
LED404 S323 SET
S322 REC/REC MUTE
S305 EDIT
S304 REV MODE
F KEY C.B
S353 OPEN/CLOSE
S352 DISC CHANGE
W302
WH301
S349
S350
S351
DISC DIRECT PLAY

SCHEMATIC DIAGRAM – 2 (FRONT)



K ONLY

R TR-1 C.B

M MOTOR-2 C.B

H MOTOR-1 C.B

G SNSR C.B

M2 (SLED MOTOR)

M3 (SPINDLE MOTOR)

SW1 (INSIDE LIMIT SW)

M302 (TURN TABLE MOTOR)

SW601 (UP/DOWN SW)

I U/D SW C.B

J OPEN SW C.B

SW602 (OPEN SW)

SW701 (CLOSE SW)

K CLOSE SW C.B

FROM B FRONT C.B CON104

M301 (TRAY LOADING MOTOR)

TO A MAIN C.B WH601

L LED C.B

LED902~905 (CD TRAY LIGHTING)

PICK UP ASSY KSS-210A

PN1

PN2

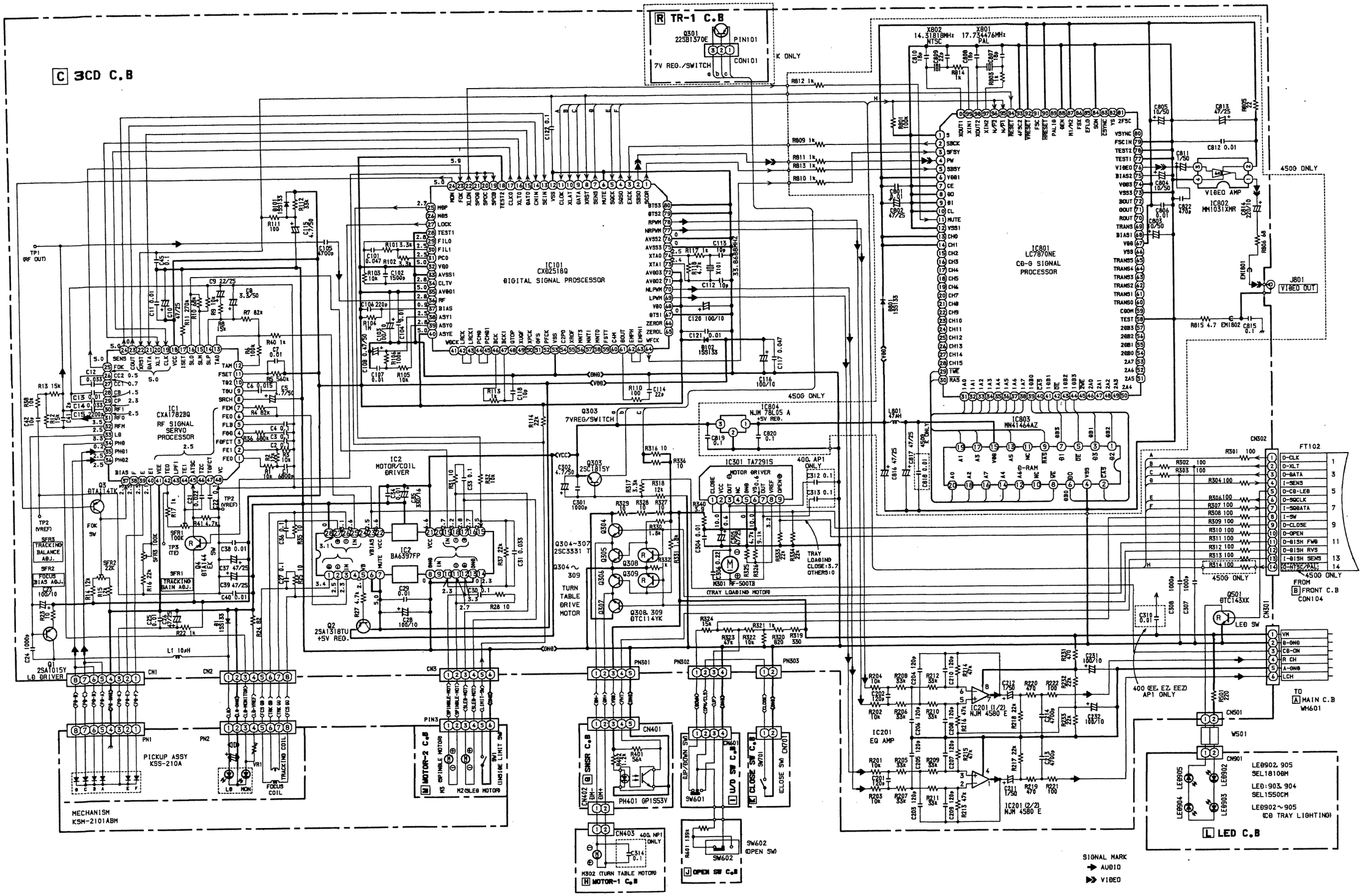
J801 VIDEO OUT

450G ONLY

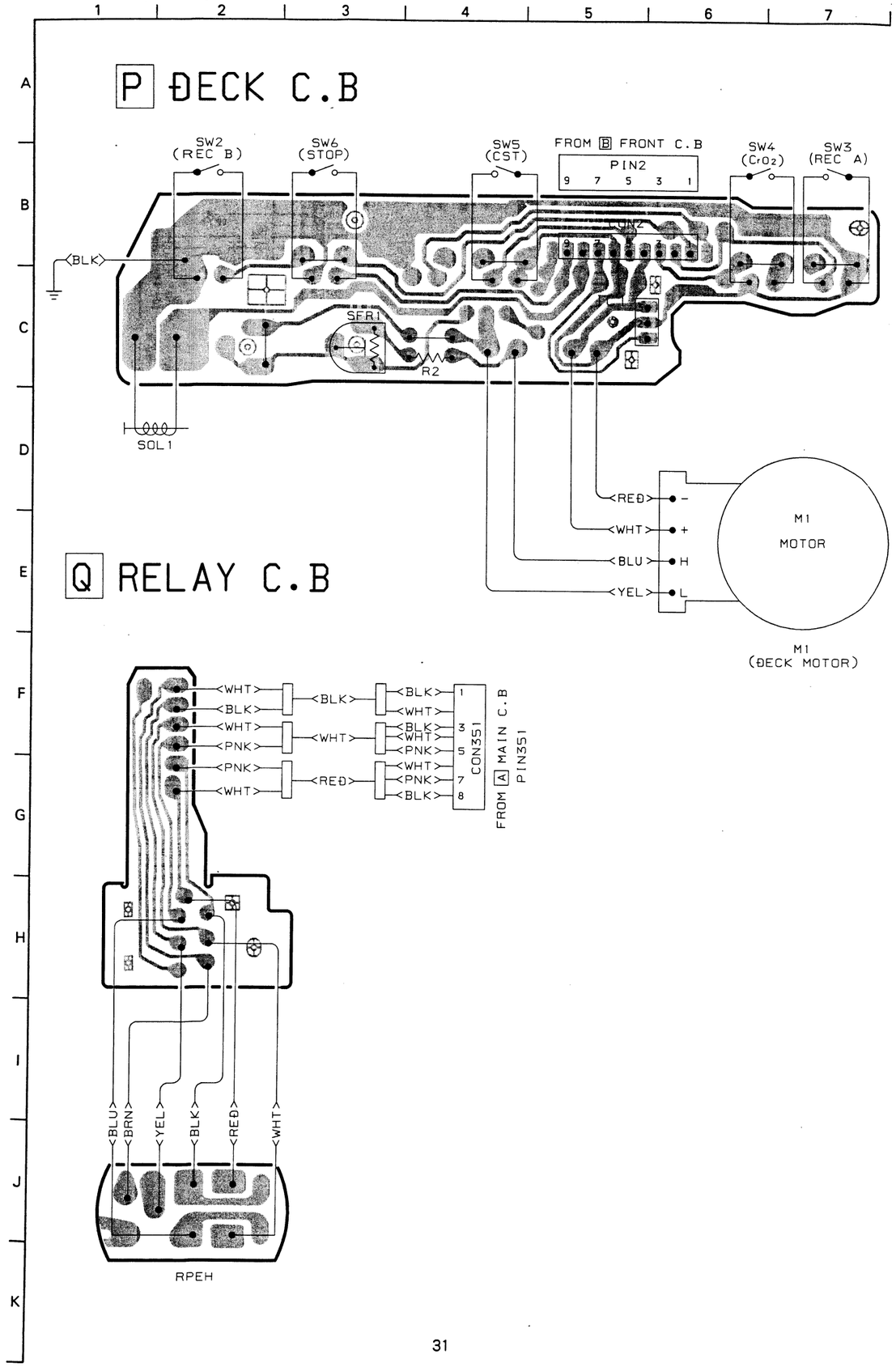
450G K ONLY

C 3CD C.B

SCHEMATIC DIAGRAM – 3 (CD)



WIRING – 4 (TAPE)



IC DESCRIPTION

IC,LC7870NE

Pin No.	Pin Name	I/O	Description
1	S	I	Connected to GND.
2	SBCK	O	Subcode read-out/write-in clock.
3	SFSY	I	Subcode frame sync signal.
4	PW	I	Subcode read/write data.
5	SBSY	I	Subcode block sync signal.
6	VDD1	—	Power supply. (Connected to +5V)
7	CE	I	Connected to GND.
8	DO	O	Connected to GND.
9	DI	I	Connected to GND.
10	CL	I	Connected to GND.
11	MUTE	I	Control signal disabling the subcode.
12	VSS1	—	GND.
13	CH0	I	Channel selection. Enabled at "H" (Pull-down resister is built in.) (Connected to +5V)
14	CH1	I	
15~28	CH2~15	—	Not used.
29	$\overline{1WE}$	O	DRAM No. 1 control pin.
30	$\overline{RAS}$	O	DRAM No. 1 and 2 common control pin.
31~38	1A0~1A7	O	DRAM No. 1 address pin.
39	1DB0	I/O	DRAM No. 1 data pin.
40	$\overline{CAS}$	O	DRAM No. 1 and 2 common control pin.
41	1DB1	I/O	DRAM No. 1 data pin.
42	$\overline{OE}$	O	DRAM No. 1 control pin.
43	1DB2	I/O	DRAM No. 1 data pin.
44	1DB3	I/O	DRAM No. 1 data pin.
45	$\overline{2WE}$	O	DRAM No. 2 control pin. (not used)
46~53	2A0~7	—	Not used.
54~57	2DB0~3	—	Not used.
58	TEST	—	Connected to GND.
59	CDGM	—	Not used.
60~65	TRANS0~5	—	Not used.
66	VSS	—	Not used.
67	VDD	—	Connected to +5V.
68	BIAS1	—	Connected to capacitor for eliminating ripples.
69	TRANS	—	Not used.
70	ROUT	—	Not used.
71	GOUT	—	Not used.
72	BOUT	—	Not used.
73	VSS3	—	GND.
74	VDD3	—	Power supply. (Connected to +5V)
75	BIAS2	O	Connected to capacitor for eliminating ripples.
76	VIDEO	O	Composite video output. (8-bit DAC output)

Pin No.	Pin Name	I/O	Description
77, 78	TEST1, 2	I	Connected to GND.
79	FSCIN	I	Connected to GND.
80	VSYNC	—	Not used.
81	2FSC	—	Not used.
82	YS	—	Not used.
83	$\overline{\text{CSYNC}}$	—	Not used.
84	SON	I	Superimpose ON/OFF. (Connected to GND)
85	EFLG	—	Not used.
86	FSX	—	Not used.
87	M1/M2	I	Switching between 256 DRAM1 and 2. H: 1 L: 2 (Connected to +5V)
88	DEN	I	Disk information display enable. H: BGC L: Enable (Pull-down resister is built in, connected to GND.)
89	PALID	—	Not used.
90	$\overline{\text{HRESET}}$	I	Horizontal timing external control. (Connected to +5V)
91	FSC	O	Subcarrier clock output. NTSC mode: 3.579545 MHz±100Hz (Not used) PAL mode: 4.433619 MHz±100Hz
92	$\overline{\text{VRESET}}$	I	Vertical timing external control terminal. (Connected to +5V)
93	4FSC2	I	Connected to GND.
94	$\overline{\text{RESET}}$	I	Reset input.
95	N/$\overline{\text{P1}}$	I	NTSC/PAL selection. (RGB encoder) "H": NTSC "L": PAL
96	N/$\overline{\text{P2}}$	I	NTSC/PAL selection. (CD-EG decoder) "H": NTSC "L": PAL
97	XIN2	I	Crystal oscillator 17.734476 MHz. (for PAL)
98	XOUT2	O	Crystal oscillator 17.734476 MHz. (for PAL)
99	XIN1	I	Crystal oscillator connection 14.31818 MHz. (for NTSC)
100	XOUT1	O	Crystal oscillator connection 14.31818 MHz. (for NTSC)

IC,MM41464AZ

Pin No.	Pin Name	I/O	Description
1	D2	I/O	Data input/output.
2	$\overline{CAS}$	I	Column address strobe.
3	D3	I/O	Data input/output.
4	VSS	—	GND.
5	$\overline{OE}$	I	Output enable.
6	D0	I/O	Data input/output.
7	D1	I/O	Data input/output.
8	$\overline{WE}$	I	Write enable.
9	$\overline{RAS}$	I	Row address strobe.
10, 11	NC	—	Not used.
12～14	A6～A4	I	Address input.
15	VDD	—	Power supply. (Connected to +5V)
16～20	A7～A0	I	Address input.

IC,CXA1782BQ

Pin No.	Pin Name	I/O	Description
1	FEO	O	Focus error amplifier output pin. This pin is connected to the FZC comparator input internally.
2	FEI	I	Focus error input pin.
3	FDFCT	I	Capacitor connection pin for time constant used when there is defect.
4	FGD	I	Corrects the focus servo high frequency gain.
5	FLB	I	This is a pin where the time constant is externally connected to raise the low frequency gain of the focus servo.
6	FEO	O	Focus drive output.
7	FEM	I	Focus amplifier inverted input pin.
8	SRCH	I	This is a pin where the time constant is externally connected to generate the focus search waveform.
9	TGU	I	This is a pin where the selection time constant is externally connected to set the tracking servo the high frequency gain.
10	TG2	I	This is a pin where the selection time constant is externally connected to set the tracking high frequency gain.
11	FSET	I	Pin for setting peak of the phase compensator of the focus tracking.
12	TAM	I	Tracking amplifier inverted input pin.
13	TAO	O	Tracking drive output.
14	SLP	I	Sled amplifier non-inverted input pin.
15	SLM	I	Sled amplifier inverted input pin.
16	SLO	O	Sled drive output.

Pin No.	Pin Name	I/O	Description
17	ISET	I	The current which determines height of the focus search, track jump and sled kick is input.
18	VCC	—	+ 5 V power supply pin.
19	CLK	I	Serial data transfer clock input from DSP (CXD2518Q).
20	XLT	I	Latch input from DSP (CXD2518Q).
21	DATA	I	Serial data input from DSP (CXD2518Q).
22	XRST	I	Reset input pin. Reset at L.
23	COUT	O	Signal output to count the number of tracks.
24	SENS	O	FZC, DFCT, TZC, Gain or BAL is output depending on the command from DSP (CXD2518Q).
25	FOK	O	Output pin of the focus OK comparator.
26	CC2	O	Input pin where the DEFECT bottom hold output is capacitance coupled.
27	CC1	I	DEFECT bottom hold output pin.
28	CB	I	This is a pin where the DEFECT bottom hold capacitor is connected.
29	CP	I	This is a pin where the MIRR hold capacitor is connected and MIRR comparator non-inverted signal is input.
30	RFI	I	Input pin where the RF summing amplifier output is capacitance coupled.
31	RFO	O	RF summing amplifier output pin. (TP1)
32	RFM	I	RF summing amplifier inverted input pin. Gain of RF amplifier is determined by the resistor connected between RFO and this pin.
33	LD	O	APC amplifier output pin.
34	PHD	I	APC amplifier input pin.
35～36	PHD1～2	I	RF I-V amplifier inverted input pin. These pins are connected to the A+C and B+D pins of the optical pickup.
37	BIAS	I	Bias adjustment pin of the non-inverted side of the focus error amplifier.
38～39	F～E	I	F and E IV amplifier non-inverted input pins. These pins are connected to the F and E of the optical pickup.
40	EI	—	Gain adjustment pin of the I-V amplifier E.
41	VEE	—	GND connection pin
42	TEO	O	Tracking error amplifier output pin. E-F signal is output.
43	LPFI	I	BAL adjustment comparator input pin. (Not used.)
44	TEI	I	Tracking error input pin.
45	ATSC	I	Window comparator input pin for detecting ATSC.
46	TZC	I	Tracking zero-cross comparator input pin.
47	TDFCT	I	Capacitor connection pin for the time constant used when there is defect.
48	VC	O	DC voltage output pin of VREF. (VCC/2)

IC,LC866432V－5530／－5531

Pin No.	Pin Name	I／O	Description
1	O－PLL CE	O	PLL IC chip enable.
2	O－KC／CE	O	Key control IC M65840 data latched strobe output.
3	O－M／STB	O	Main shift register (IC602, 603) data latch strobe output.
4	O－M／DATA	O	Main shift register (IC602, 603), PLL/key control/DSP related data output.
5	O－M／CLK	O	Main shift register (IC602, 603), PLL/key control/DSP related clock output.
6	I－$\overline{\text{HOLD}}$	I	Power failure detected input. L to stop clock and maintain memory.
7	$\overline{\text{RESET}}$	I	Reset input.
8	I－$\overline{\text{STEREO}}$	I	Tuner stereo detected input.
9	I－$\overline{\text{TUNE}}$／IFC	I	Tuner $\overline{\text{SD}}$ detected input. IF count serial data input.
10	VSS1	—	GND.
11, 12	CF1, 2	—	5.76MHz oscillator circuit.
13	VDD1	—	Power supply input.
14～16	I－KEY1～3	I	Key input. (A/D)
17	I－CD／SW	I	CD mechanical switch A/D converter input.
18	I－CD／DISH	I	CD turntable photo sensor A/D converter input.
19	I－MS	I	Deck music sensor signal input.
20	I－SPEANA	I	A/D input for spectrum analyzer display.
21	I－MIC	I	Microphone input for auto VF display.
22	I－TM BASE	I	Reference clock input for timer watch.
23	I－CD／SENSE	I	CD IC control SENS input.
24	I－RMC	I	System remote control signal input.
25～36	G12～G1	O	FL grid output G12～G1.
37	P22	O	FL segment output P22.
38	P21／O－SPEANA A	O	FL segment output P21, spectrum analyzer band switch output (A).
39	P20／O－SPEANA B	O	FL segment output P20, spectrum analyzer band switch output (B).
40	P19／O－SPEANA C	O	FL segment output P19, spectrum analyzer band switch output (C).
41	VDD2	—	Power supply input.
42	－VP	—	Power supply input (-34.5V) for FL display.
43	P18	I／O	FL segment output P18.
44	P17	I／O	FL segment output P17.
45	P16	I／O	FL segment output P16.
46	P15／CAM2	I／O	FL segment output P15, DECK cam switch signal input.
47	P14／AUTO2	I／O	FL segment output P14, DECK auto stop data input.
48	P13／CST2	I／O	FL segment output P13, DECK cassette detect switch data input.
49	P12／REA	I／O	FL segment output P12, DECK side-A record OK switch data input.
50	P11／REB	I／O	FL segment output P11, DECK2 side-B record OK switch data input.
51	P10／FM－WIDE	I／O	FL segment output P10, FM wide mode data input to diode.
52	P1／AM－ST	I／O	FL segment output P1, AM stereo mode data input to diode.
53	P2／AM10K	I／O	FL segment output P2, AM 10kHz step data input to diode.

Pin No.	Pin Name	I/O	Description
54	P3/LW	I/O	FL segment output P3, LW mode data input to diode.
55	P4/SW	I/O	FL segment output P4, SW mode data input to diode.
56	P5/BBE	I/O	FL segment output P5, BBE mode data input to diode.
57	P6/DSP	I/O	FL segment output P6, DSP data input to diode.
58	P7/K-CON	I/O	FL segment output P7, key control data input to diode.
59	P8/CDG	I/O	FL segment output P8, CDG data input to diode.
60	P9/OIRT	O	FL segment output P9.
61	O-CLOSE	O	CD tray close data output.
62	O-OPEN	O	CD tray open data output.
63	O-DI/R	O	CD turntable reverse rotation output.
64	O-DI/F	O	CD turntable forward rotation output.
65	O-$\overline{\text{POWER}}$	O	System power supply $\overline{\text{ON}}$/OFF output.
66	—	—	Not used.
67	O-$\overline{\text{SOL2}}$	O	DECK solenoid output.
68	O-$\overline{\text{MOTOR}}$	O	DECK motor output.
69	O-$\overline{\text{KEY. SCAN}}$	O	Switch scan timing output.
70	O-F/STB	O	Front shift register (IC401~403), data latch strobe output.
71	O-F/CLK	O	Front shift register (IC401~403), data transfer clock output.
72	O-F/DATA	O	Front shift register (IC401~403), data output.
73	VSS2	—	GND.
74	O-DSP/CE	O	DSP related data latch strobe output.
75	O-CD/DATA	O	CD IC control data output.
76	O-CD/XLT	O	CD IC control data latch output.
77	O-CD/CLK	O	CD IC control data transfer clock output.
78	I-CD/SQ. DATA	O	CD SUB-Q data input.
79	O-CD/SQ. CLK	O	Clock output for CD SUB-Q input data.
80	O-MUTE	O	System mute output.

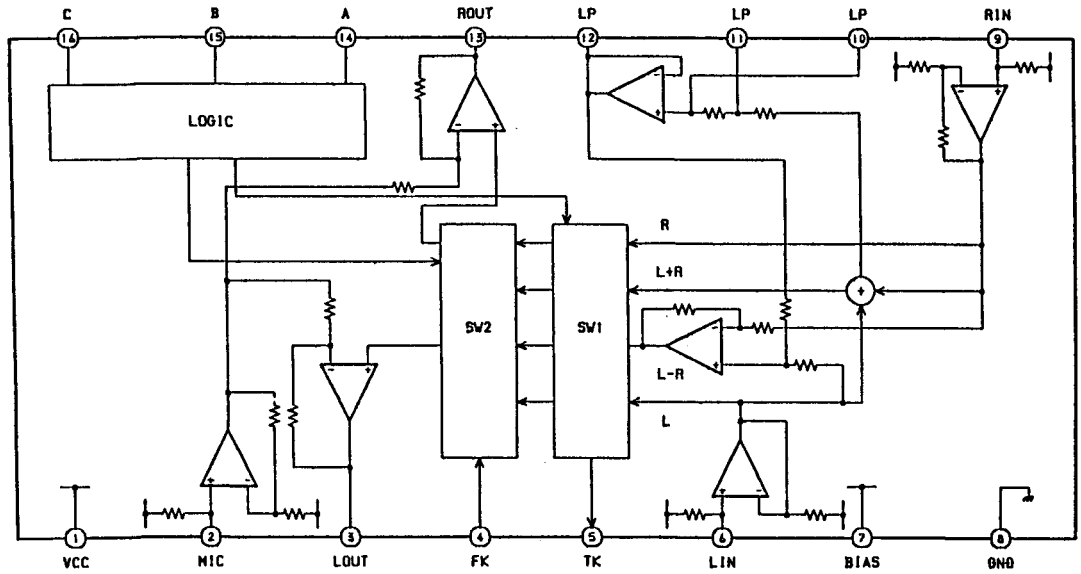
IC,CXD2518Q

Pin No.	Pin Name	I/O	Description
1	SCOR	O	1H when the subcode sync S0 or S1 is detected.
2	SBSO	O	SUBP~W serial output.
3	EXCK	I	Clock input for SBSO read out.
4	SQSO	O	SUBQ 80-bit serial output.
5	SQCK	I	Clock input for SQSO read out.
6	MUTE	I	H to mute. L to cancel. (Connected to GND.)
7	SENS	O	SENS signal output to CPU (IC201).
8	XRST	I	System reset. L to reset.
9	DATA	I	Serial data input from CPU (IC201).
10	XLAT	I	Latch input from CPU (IC201). Latching serial data at fall down.
11	CLOK	I	Clock input from CPU (IC201) to transfer serial data.
12	VSS	—	GND.
13	SEIN	I	SENS input from SSP (CXA1782BQ).
14	CNIN	I	Numbers of track jump are counted and input.
15	DATO	O	Serial data output to SSP (CXA1782BQ).
16	XLTO	O	Serial data latched output to SSP (CXA1782BQ). Latched at fall down edge.
17	CLKO	O	Clock input from SSP (CXA1782BQ) to transfer serial data.
18	TEST2	I	TEST. (Connected to +5V)
19~21	SPOB~D	I	Input from INSIDE LIMIT switch (SW1).
22	XLON	O	LC7870E mute control output.
23	FOK	I	Focus OK input pin. Used for SENS output and servo auto sequencer.
24	MON	O	Spindle motor ON/OFF control output.
25	MDP	O	Spindle motor servo control output.
26	MDS	O	Spindle motor servo control output. (Not used)
27	LOCK	O	GFS is sampled by 460Hz. H output when GFS is H. L output when GFS is L for 8 consecutive times.
28	TEST1	I	TEST. (Connected to GND)
29	FILO	O	Filter output to master PLL. (slave=digital PLL)
30	FILI	I	Filter input to master PLL.
31	PCO	O	Charge-pump output to master PLL.
32	VDD	—	Power supply input. (+5V)
33	AVSS1	—	GND.
34	CLTV	I	VCO control voltage input to master PLL.
35	AVDD1	—	Power supply input. (+5V)
36	RF	I	EFM signal input.
37	BIAS	I	Constant current input to asymmetry correction circuit.
38	ASYI	I	Comparate voltage input to asymmetry correction circuit.
39	ASYO	O	EFM full swing output. (L=VSS, H=VDD)
40	ASYE	I	L: asymmetry correction OFF. H: asymmetry correction ON (connected to +5V)
41	WDCK	O	D/A interface, word clock (2Fs) for 48-bit slot. (Not used)
42	LRCK	O	D/A interface, LR clock (Fs) for 48-bit slot.

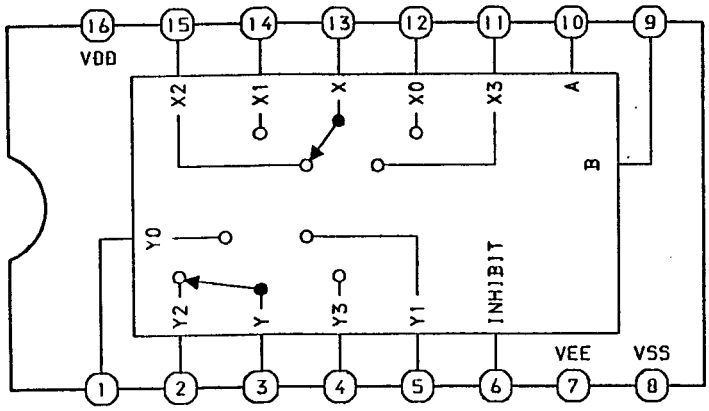
Pin No.	Pin Name	I/O	Description
43	LRCKI	I	LR clock input to DAC. (48-bit slot)
44	PCMD	O	D/A interface, serial data. (2's complement, MSB first)
45	PCMDI	I	Audio data input to DAC. (48-bit slot)
46	BCK	O	D/A interface, bit clock.
47	BCKI	I	Bit clock input to DAC. (48-bit slot)
48	GTOP	O	GTOP output. (Not used)
49	XUGF	O	XUFG output. (Not used)
50	XPCK	O	XPLCK output. (Not used)
51	GFS	O	GFS output. (Not used)
52	RFCK	O	RFCK output. (Not used)
53	VSS	—	GND.
54	C2PO	O	C2PO output. (Not used)
55	XROF	O	XRAOF output. (Not used)
56	MNT3	O	MNT3 output. (Not used)
57	MNT1	O	MNT1 output. (Not used)
58	MNT0	O	MNT0 output. (Not used)
59	FSTT	O	Pins-73 and -74 divided-by 2/3 output. (Not used)
60	C4M	O	4.2336MHz output. (Not used)
61	DOUT	O	Digital Out connector output signal.
62	EMPH	O	H when the playback disc has emphasis. L when it does not.
63	EMPHI	I	DAC emphasis ON/OFF. H when ON. L when OFF
64	WFCK	O	WFCK (WRITE FRAME CLOCK) output.
65	ZEROL	O	No sound data detection output. H (L-ch) when no sound data is detected. (Not used)
66	ZEROR	O	No sound data detection output. H (R-ch) when no sound data is detected. (Not used)
67	DTSI	I	TEST for DAC. (Connected to GND)
68	VDD	—	Power supply input. (+5V)
69	LPWM	O	L-ch PWM output. (normal polarity)
70	NLPWM	O	L-ch PWM output. (reversed polarity)
71	AVDD2	—	Power supply input to L-ch PWM driver. (Connected to +5V)
72	AVDD3	—	Power supply input to X'tal. (Connected to +5V)
73	XTAI	I	X'tal input to 33.8688MHz oscillator circuit.
74	XTAO	O	33.8688MHz X'tal oscillator circuit output.
75	AVSS1	—	Power supply input to X'tal. (Connected GND)
76	AVSS2	—	Power supply input to PWM driver. (Connected to GND)
77	NRPWM	O	R-ch PWM output. (reversed phase)
78	RPWM	O	R-ch PWM output. (normal phase)
79	DTS2	I	TEST-2 for DAC. (Connected GND)
80	DTS3	I	TEST-3 for DAC. (Connected GND)

IC BLOCK DIAGRAM

IC,BA3837



IC,TC4052

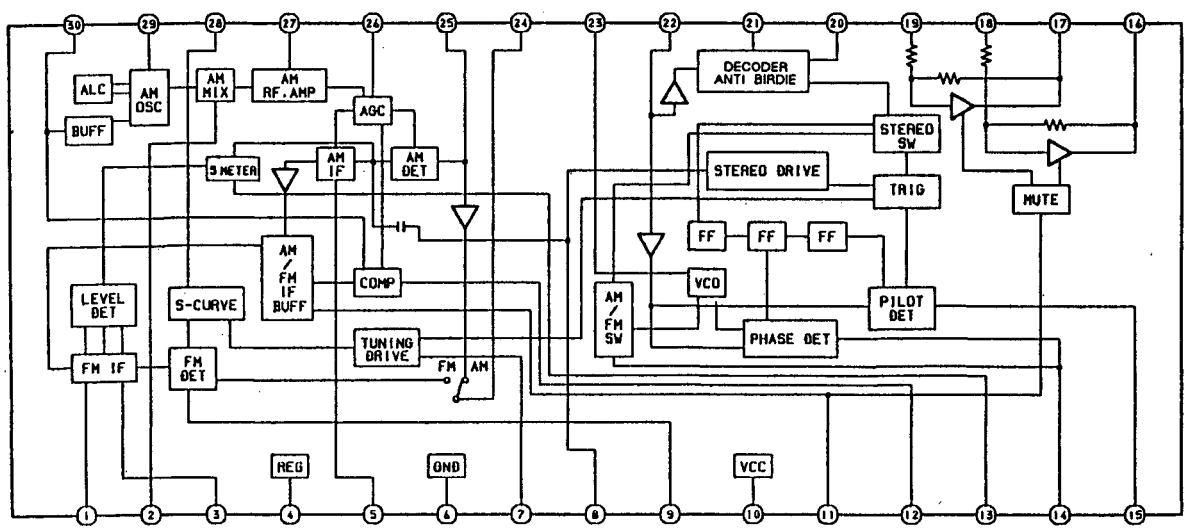


TRUTH TABLE

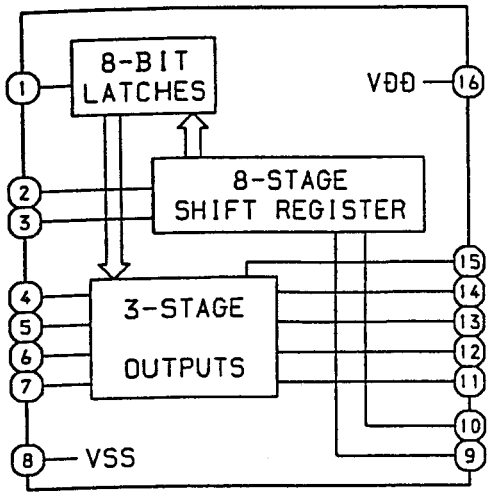
CONTROL INPUTS			ON SWITCH	
INHIBIT	B	A		
L	L	L	Y0	X0
L	L	H	Y1	X1
L	H	L	Y2	X2
L	H	H	Y3	X3
H	X	X	—	—

L:LOW LEVEL
H:HIGH LEVEL
H:IRRELEVANT

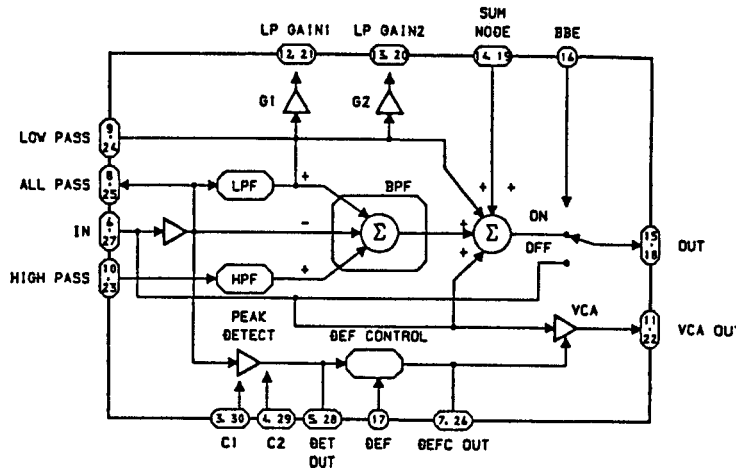
IC,LA1836



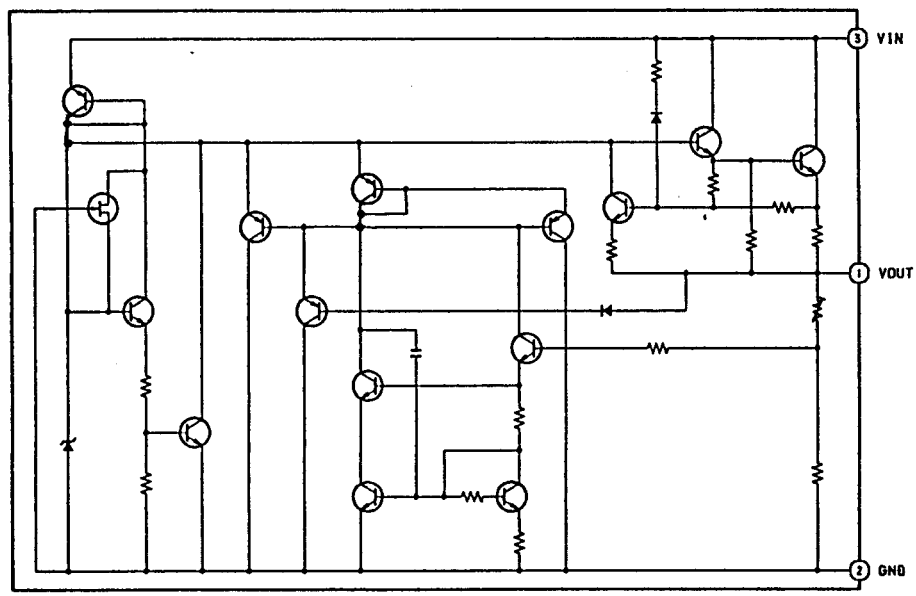
IC,TC4094B



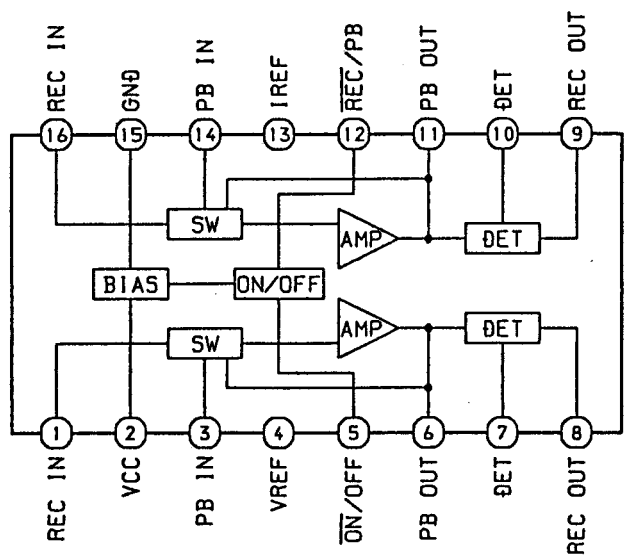
IC,XR – 1071CP



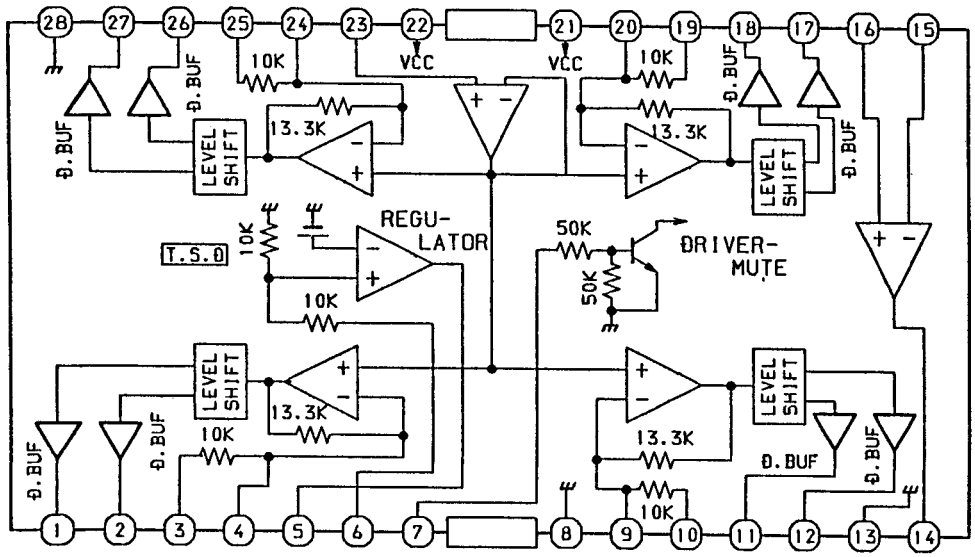
IC,NJM78L05A



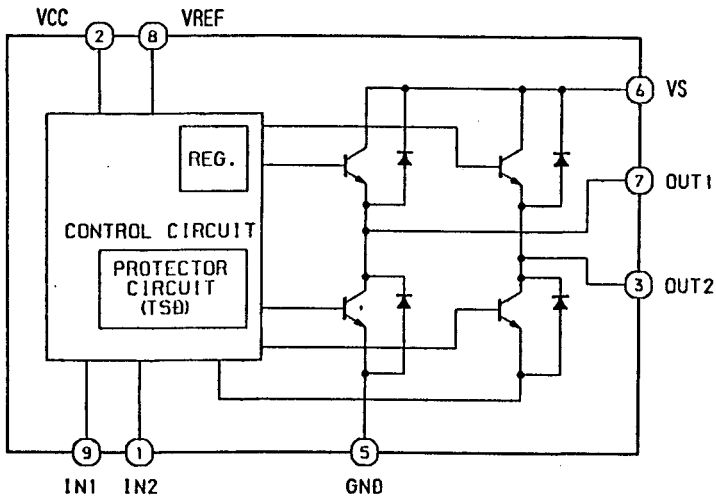
IC,HA12134A



IC,BA6397FP



IC,TA7291S

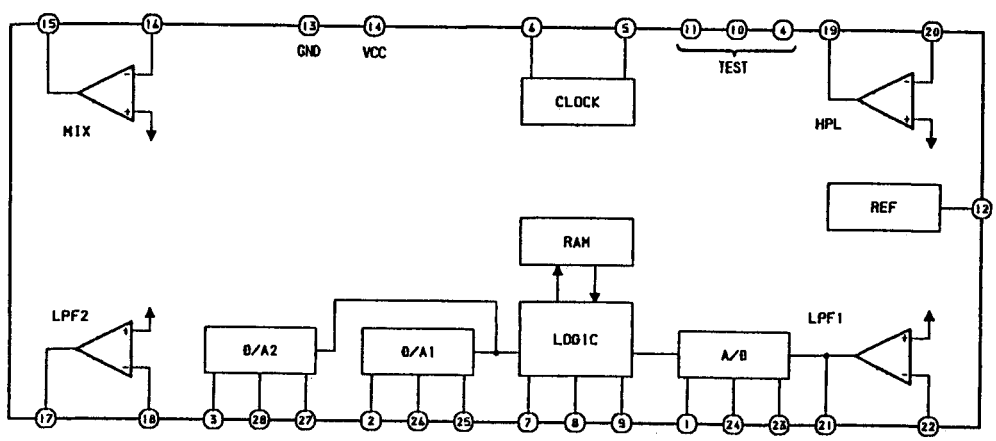


TRUTH TABLE

INPUT		OUTPUT		MODE
IN1	IN2	OUT1	OUT2	
0	0	∞	∞	STOP
1	0	H	L	CW
0	1	L	H	CCW
1	1	L	L	BRAKE

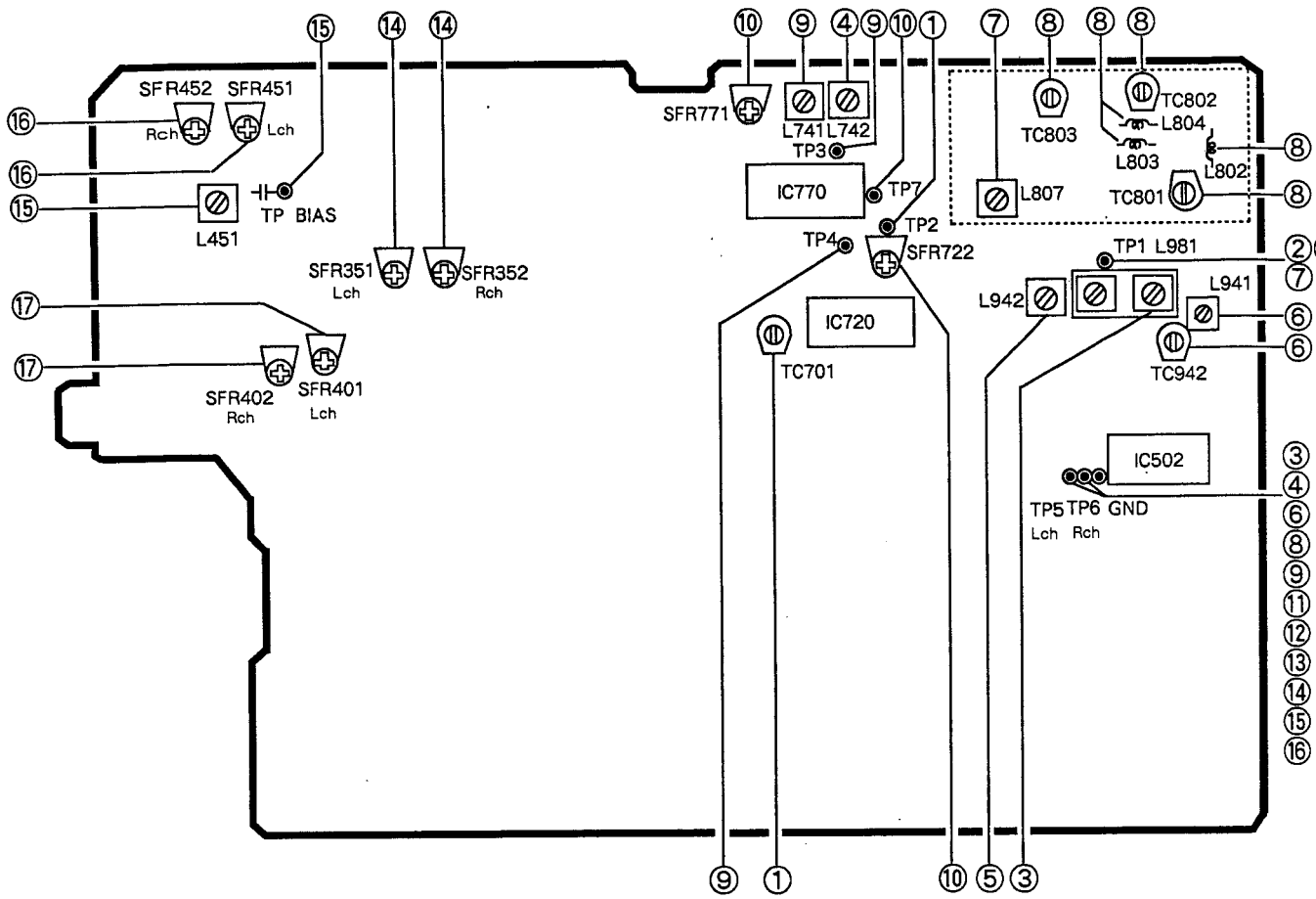
∞ : HI IMPEDANCE
NOTE : INPUT "H" ACTIVE

IC,M65840

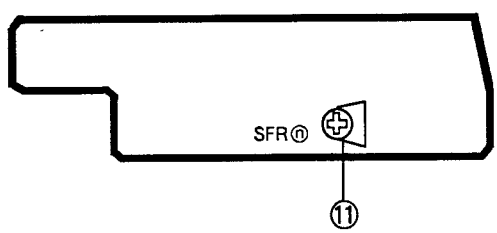


ELECTRICAL ADJUSTMENT

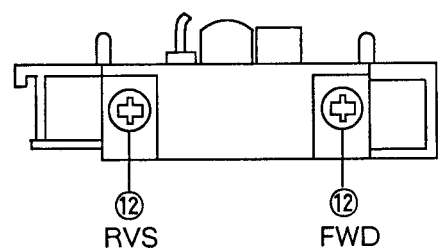
A MAIN C.B



P DECK2 C.B



DECK1 P, DECK2 R/P/E HEAD



TUNER SECTION

1. Clock Frequency Adjustment
   Settings : • Test point : TP2 (CLK IC770 pin30)
   • Adjustment location : TC701
   Method : Set to MW 1602kHz and adjust TC701 so that the test point becomes 2052kHz ± 0.01kHz.

2. MW VT Check
   Settings : • Test point : TP1 (VT)
   Method : Set to MW 1602kHz and check that the test point is 6.3 ± 1.0V.

3. MW Tracking Adjustment
   Settings : • Test point : TP5,TP6
   • Adjustment location : L981
   Method : Set to MW 999kHz and adjust L981 that the test point becomes maximum.

4. AM IF Adjustment
   Settings : • Test point : TP5,TP6
   L742 ..... 450kHz

5. LW VT Adjustment

Settings : • Test point : TP1 (VT)
• Adjustment location : L942

Method : Set to LW 144kHz adjust L942 so that the test point becomes 1.50V ± 0.05V.

6. LW Tracking Adjustment

Settings : • Test point : TP5,TP6
• Adjustment location :
L941 ..... 144kHz
TC942 ..... 290kHz

Method : Set up TC942 to center before adjustment. The level at 144kHz is adjusted to MAX by L941. Then the level at 290kHz is adjusted to MAX by TC942.

7. FM VT Adjustment

Settings : • Test point : TP1 (VT)
• Adjustment location : L807

Method : Set to FM 87.5MHz and adjust L807 so that the test point becomes 1.7V ± 0.05V.

8. FM Tracking Adjustment

Settings : • Test point : TP5,TP6
TC801,TC802,TC803 ..... 108MHz
L802,L804,L803 ..... 87.5MHz

9. DC Balance/MONO Distortion Adjustment

Settings : • Test point : TP3,TP4 (DC balance)
TP5,TP6 (Distortion)
• Adjustment location : L741
• Input level : 54dB

Method : Set to FM 98.0MHz and adjust L741 so that the voltage between TP3 and TP4 becomes 0V ± 0.04V.
Next check that the distortion is less than 1.3%.

10. Auto stop Level Adjustment

FM

Settings : • Test point : TP7
• Adjustment location : SFR722
• Input level : 18dB

Method : Set to FM 98.0MHz and adjust voltage low (about 0.01V) by SFR722. After that voltage high (about 7.0V) out by 2dB down.

AM

Settings : • Test point : TP7
• Adjustment location : SFR771
• Input level : 55dB

Method : Set to AM 999kHz and adjust voltage low (about 0.01V) by SFR771. After that voltage high (about 7.0V) out by 2dB down.

TAPE SECTION

11. Tape Speed Adjustment

Settings : • Test tape : TTA-100
• Test point : TP5,TP6
• Adjustment location : SFR⓫

Method : Play back the test tape by DECK and adjust SFR⓫ so that the frequency counter reads 3000Hz ± 5Hz.

12. Head Azimuth Adjustment

Settings : • Test tape : TTA-310
• Test point : TP5,TP6
• Adjustment location : Head azimuth adjustment screw

Method : Play back the 10kHz signal of the test tape and adjust screw so that the output becomes maximum. Next, perform on each FWD PLAY and REV PLAY mode.

13. PB Frequency Response Check

Settings : • Test tape : TTA-310
• Test point : TP5,TP6

Method : Play back the 315Hz and 10kHz signals of the test tape and check that the output ratio of the 10kHz signal is with respect to that of the 315Hz signal is ± 2dB.

14. PB Sensitivity Adjustment

Settings : • Test tape : TTA-200
• Test point : TP5,TP6
• Adjustment location :
SFR351 (Lch)
SFR352 (Rch)

Method : Play back the test tape and adjust SFRs so that the output level of the test point becomes 300mV.

15. BIAS OSC Adjustment

Settings : • Test tape : TTA-601
• Test point : TP5 BIAS
• Adjustment location : L451

Method : Set to the REC mode : Adjust L451,so that the frequency counter of the test point reads 85kHz ± 1kHz.

16. REC/PB Frequency Response Adjustment

Settings :
- Test tape : TTA-601
- Test point : TP5,TP6
- Input signal : 1kHz/10kHz (LINE IN)
- Adjustment location : SFR451 (Lch)
  SFR452 (Rch)

Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP5,TP6 is 21mV. Record and play back the 1kHz and 10kHz signals and adjust SFRs so that the output of the 10kHz signal becomes 0dB ± 0.5dB with respect to that of the 1kHz signal.

17. REC/PB Sensitivity Adjustment

Settings :
- Test tape : TTA-601 (TTA – 600)
- Test point : TP5,TP6
- Input signal : 1kHz (LINE IN)
- Adjustment location :SFR401 (Lch)
  SFR402 (Rch)

Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP5,TP6 is 21mV. Record and play back the 1kHz signal and adjust SFRs so that the output becomes 21mV ± 0.5dB.

PRACTICAL SERVICE FIGURE

TUNER SECTION

< FM SECTION >

IHF Sensitivity :	4dB ± 6dB (87.5MHz)
(THD 3%)	2dB ± 6dB (98.0MHz)
	2dB ± 6dB (108.0MHz)
S/N 50dB Quieting sensitivity :	35dB ± 5dB (87.5/98.0/108.0MHz)
Signal to noise ratio :	More than 64dB (98.0MHz)
Distortion :	Less than 1.2% (98.0MHz)
Intermediate frequency :	10.7MHz

< MW SECTION >

Sensitivity :	55dB ± 7dB (603kHz)
(S/N 20dB)	53dB ± 6dB (999kHz)
	53dB ± 6dB (1404kHz)
Distortion :	Less than 1.5% (999kHz)
Intermediate frequency :	450kHz

< LW SECTION >

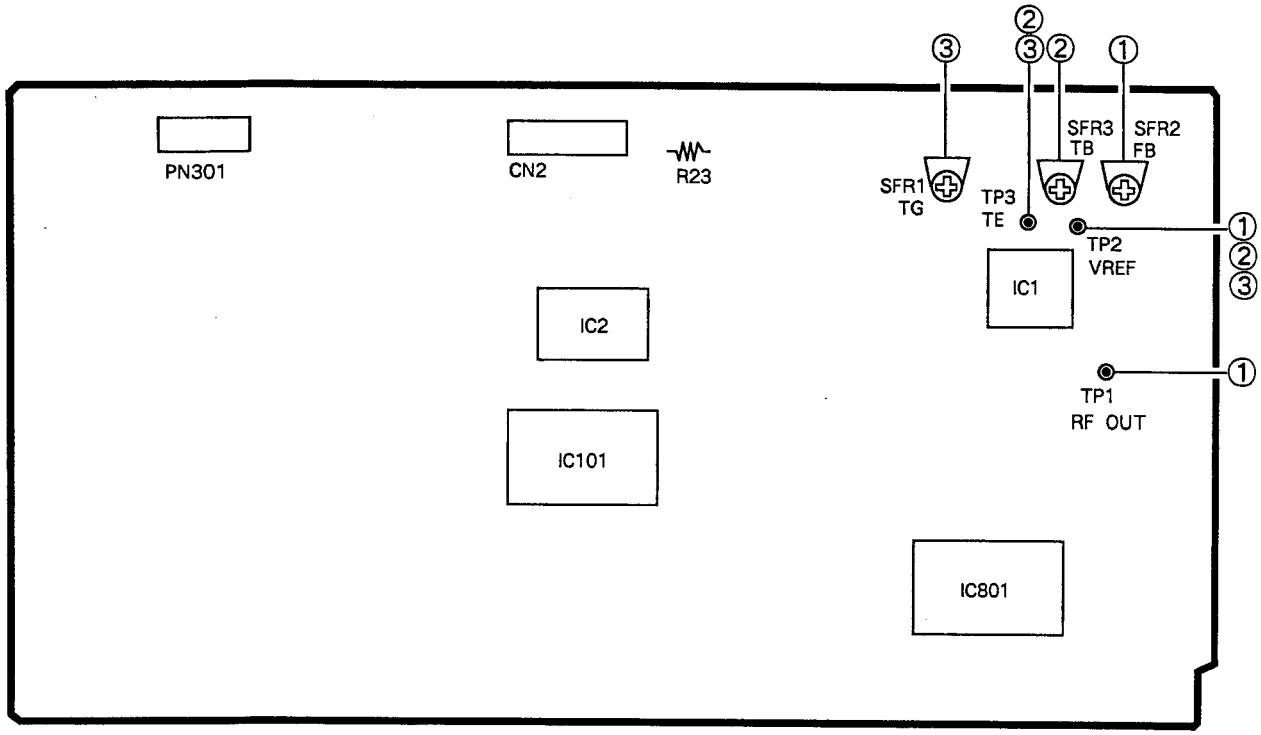
Sensitivity :	66dB ± 5dB (144kHz)
(S/N 20dB)	63dB ± 5dB (198kHz)
	62dB ± 5dB (290kHz)
Distortion :	Less than 1.5% (198kHz)
Intermediate frequency :	450kHz

TAPE SECTION

Tape speed :	3000Hz ± 1.5%
Wow & flutter :	Less than 0.35% (R.M.S)
Take-up torque :	30~55g-cm (FWD, REV)
F.F torque :	75~180g-cm
Rew torque :	75~180g-cm
Back tension :	2~7g-cm
PB Output level :	2.8V ± 1.5dB (SP OUT)
REC/PB Output level :	2.0V ± 2.0dB (SP OUT)
Distortion (REC/PB) :	Less than 2% (NORM)
Noise level (PB) :	Less than 200mV (DOLBY NR OFF NORM, Vol MAX.)
Noise level (REC/PB) :	Less than 35mV (DOLBY NR OFF NORM, SP OUT 2V)
Crosstalk :	More than 60dB (1kHz, 0VU)
Erasing ratio :	More than 60dB (125Hz)
Channel separation :	More than 40dB (1kHz, 0VU)
REC bias frequency :	85kHz
Test tape :	NORMAL TTA – 601/600

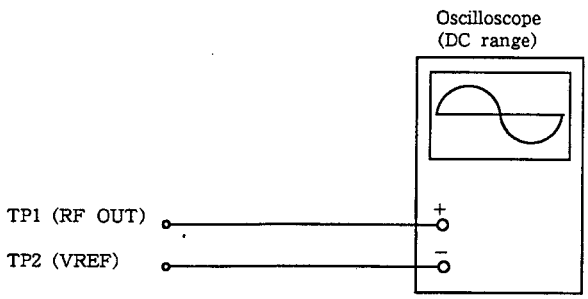
ADJUSTMENT

C 3CD C.B

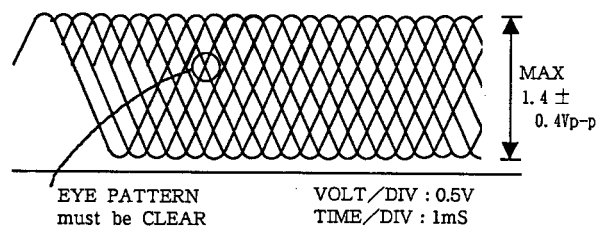


Note : Connect a probe (10 : 1) of the osilloscope or the frequency counter to a test point.

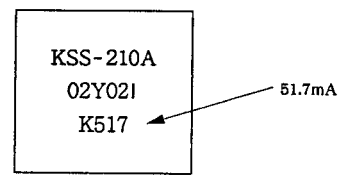
1. Focus Bias Adjustment
   Make the focus bias adjustment when replacing and repairing the optical block.



1) Connect an oscilloscope to the test points TP1 (RF OUT) and TP2 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
4) Adjust SFR2 so that RF signal of the test point TP1 (RF OUT) is MAX and CLEARREST.

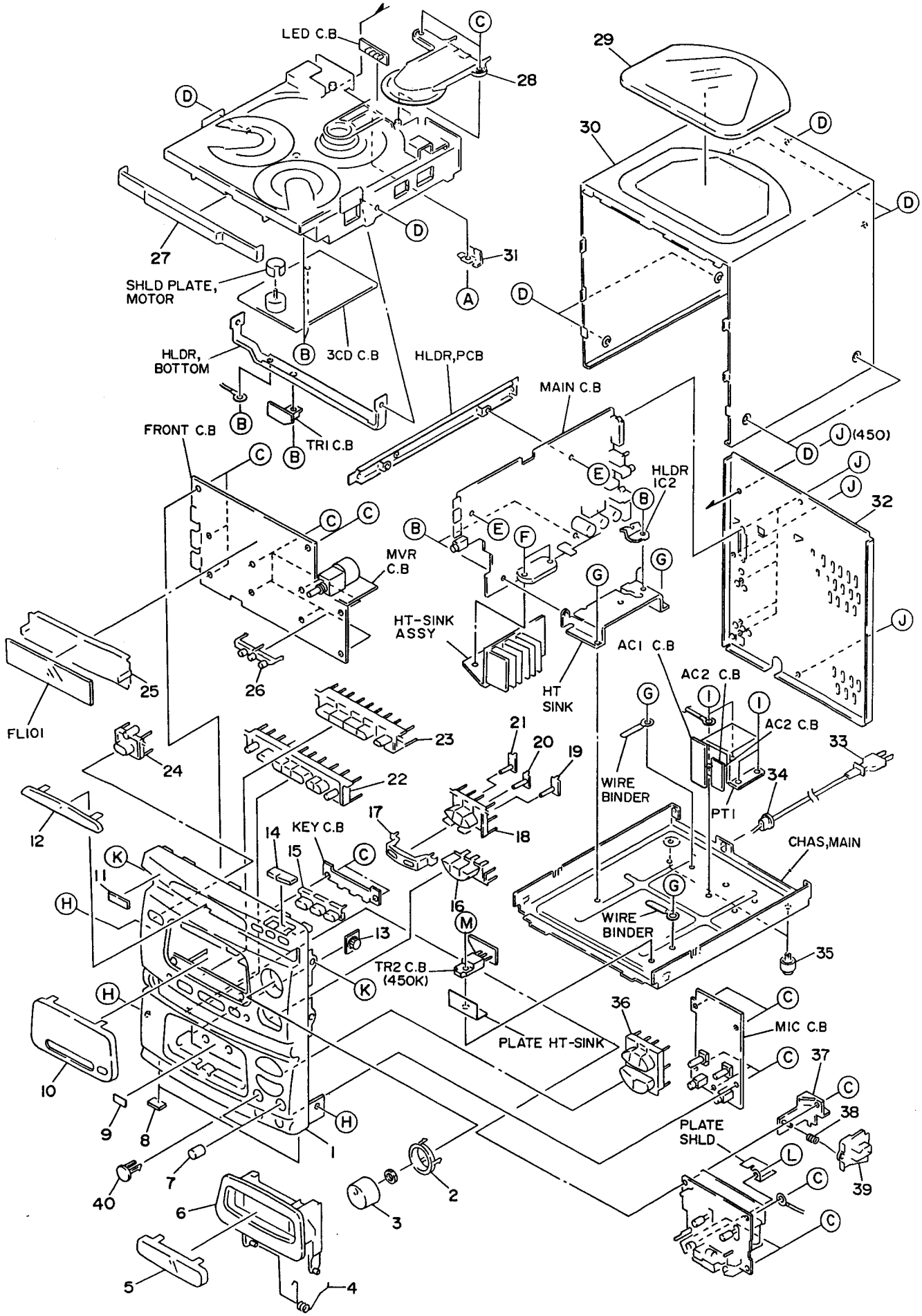


Note : The current of the laser signal can be checked with the voltages on both sides of R23 (10 Ω). The difference for the specified value shown on the lavel must be withim ± 6.0mA.



$$\text{Laser current Iop} = \frac{\text{Voltage across R23}}{10\ \Omega}$$

MECHANICAL EXPLODED VIEW 1/2

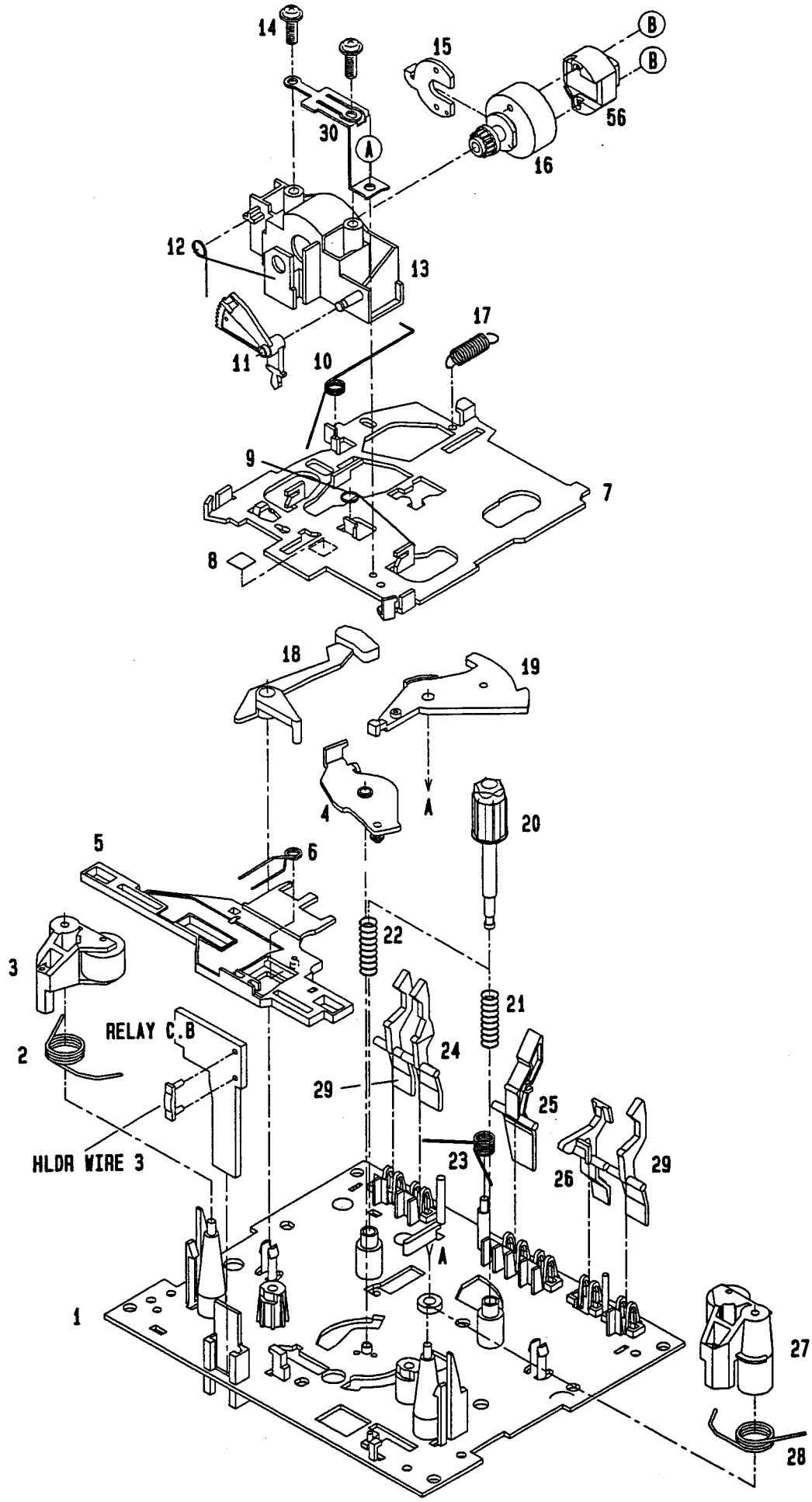


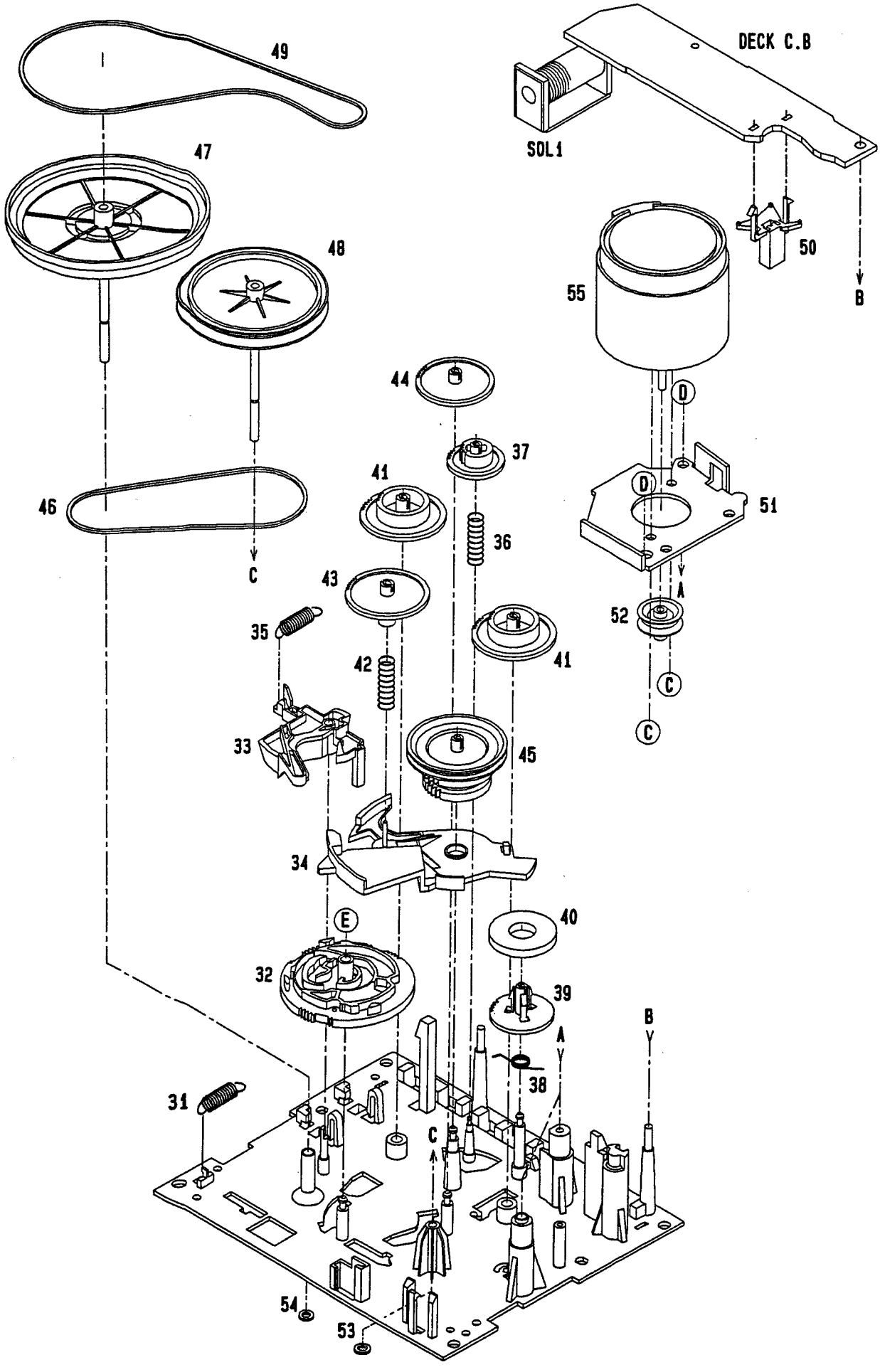
MECHANICAL PARTS LIST 1/2

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	カンリ NO.	DESCRIPTION
1	83-NF8-016-010		CAB, FR〈450G〉
1	83-NFJ-002-010		CAB, FR[B]〈400〉
1	83-NFJ-054-010		CAB, FR〈AP1〉
1	83-NFJ-061-019		CAB, FR[ST]〈400〉
2	83-NF8-014-010		RING, VOL
3	82-NF7-010-010		KNOB, VOL[B]
3	83-NFJ-067-019		KNOB, VOL[ST]
4	82-NF5-218-010		SRT-T, EJECT 1 SIN
5	83-NF8-005-010		WINDOW, CASS
6	83-NF8-052-010		BOX, CASS K[B]
6	83-NFJ-062-019		BOX, CASS[ST]
7	82-NK7-006-010		KNOB, VOL ECHO
8	80-VT1-202-010		FELT, 12.5-15.5-2
9	81-532-080-010		LBL, CASS-COMPT
10	83-NFJ-021-010		WINDOW, DISPLAY〈EXCEPT 450G〉
10	83-NF8-003-010		WINDOW, DISPLAY〈450G〉
11	82-NE6-067-010		BADGE AIWA 30N
12	83-NF8-004-010		WINDOW, CD
13	87-063-165-010		OIL-DMPR 150
14	83-NF8-007-010		KEY, OPEN[B]
14	83-NFJ-065-019		KEY, OPEN[ST]
15	83-NF8-008-010		KEY, DISC
16	83-NF8-012-010		KEY, GEQ
17	83-NF8-020-010		DUMMY, GEQ A〈450G, AP1〉
17	83-NFJ-018-010		DUMMY, GEQ〈400〉
18	83-NF8-018-010		KEY, DSP A〈450G, AP1〉
18	83-NFJ-016-010		KEY, T-BASS〈400〉
19	83-NF8-043-010		IND, DSP C〈450G, AP1〉
20	83-NF8-042-010		IND, DSP B〈450G, AP1〉
21	83-NF8-041-010		IND, DSP A〈450G, AP1〉
22	83-NF8-011-110		KEY, PLAY
23	83-NF8-010-010		KEY, FUN
24	83-NF8-009-010		KEY, POWER[B]
24	83-NFJ-066-019		KEY, POWER[ST]
25	82-NF5-212-010		GUIDE, FL〈EXCEPT 450G〉
25	82-NF5-202-010		GUIDE, FL〈450G〉
26	83-NF8-202-010		GUIDE, LED(DSP)〈450G, AP1〉
27	83-NFJ-023-010		PANEL, TRAY K[B]〈400, AP1〉
27	83-NF8-047-010		PANEL, TRAY K〈450G〉
27	83-NFJ-104-019		PANEL, TRAY[ST]〈400〉
28	83-NF5-023-010		IND, CD
29	83-NF5-021-010		WINDOW, TOP
30	83-NF8-053-010		CAB, STEEL[B]
30	83-NFJ-069-019		CAB, STEEL[ST]
31	83-NF5-034-010		IND, CD 2
32	83-NF8-067-01S		PANEL, REAR〈450GEEZ, 450GEZ〉
32	83-NF8-064-01S		PANEL, REAR〈450GK〉
32	83-NFJ-082-01S		PANEL, REAR[B]〈400EE〉
32	83-NFJ-083-01S		PANEL, REAR[B]〈400EEZ, 400EZ〉
32	83-NFJ-075-01S		PANEL, REAR[B]〈400K〉
32	83-NFJ-085-01S		PANEL, REAR〈AP1〉
32	83-NFJ-084-010		PANEL, REAR[ST]〈400EZ〉
⚠ 33	87-050-029-010		AC CORD〈K〉
⚠ 33	87-050-034-010		AC CORD〈EXCEPT K〉
34	87-085-185-010		BUSHING, AC CORD
35	87-085-221-010		FOOT, H 13.5
36	83-NF8-013-010		KEY, KARAOKE〈450G〉
36	83-NFJ-006-010		KEY, KARAOKE[B]〈400〉
36	83-NFJ-064-019		KEY, KARAOKE[ST]〈400〉
37	82-NF5-226-010		HLDR, LOCK 1N
38	82-NF5-228-010		SPR-C, LOCK
39	82-NF5-229-010		PLATE, LOCK
40	83-NFJ-019-010		DUMMY KNOB[B]〈400〉
40	83-NFJ-068-019		DUMMY KNOB[ST]〈400〉
A	87-741-094-410		UT2+3-6
B	87-067-579-010		BVT 2+3-8 W/O SLOT
C	87-067-703-010		BVT2+3-10 W/O SLOT
D	87-067-641-010		UTT2+3-8 W/O SLOT BLK
E	87-067-633-010		BVT2+3-8 W/CONVEX
F	87-067-698-010		BVT 2+3-18 W/O SLOT
G	87-067-688-010		BVTT +3-6
H	87-591-094-410		QIT+3-6 GOLD
I	87-078-019-010		S-SCREW, IT+4-6
J	87-067-660-010		BVT2+3-8W/O SLOT BLK
K	87-721-097-410		QT2+3-12 GLD
L	87-571-032-410		VIT+2-3
M	87-067-689-010		BVTT+3-8〈450GK〉

TAPE MECHANISM EXPLODED VIEW 1/1

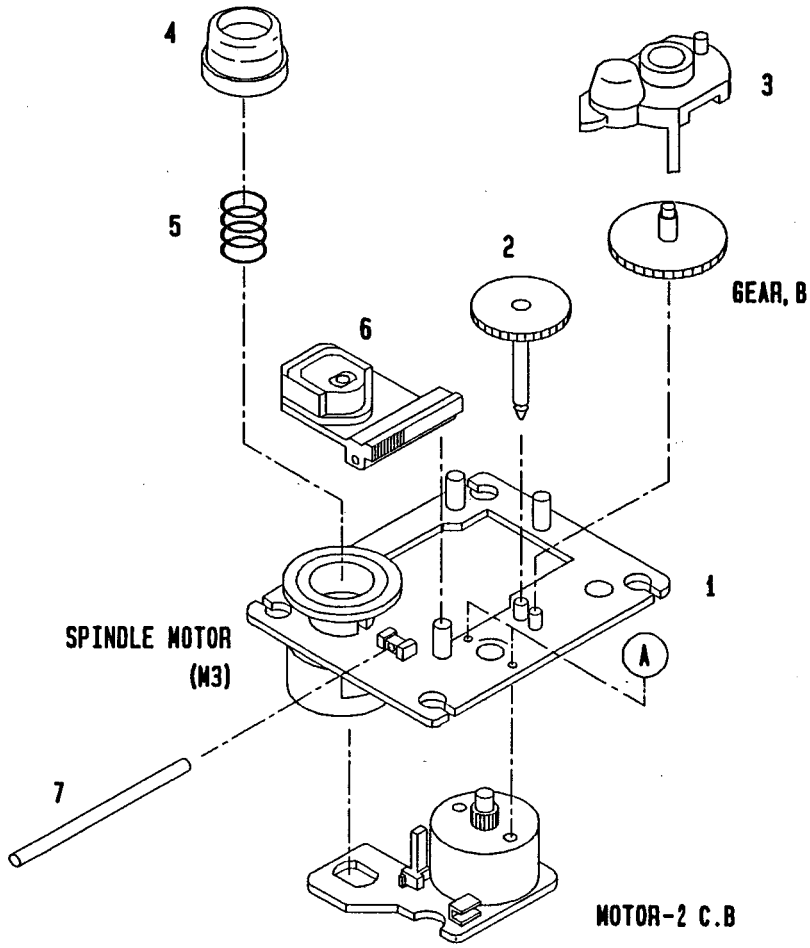



DECK C.B
SOL1
49
47
48
46
C
44
37
41
36
43
35
42
41
33
45
34
40
32
39
38
31
54
53
50
55
B
D
51
A
52
C

TAPE MECHANISM PARTS LIST 1/1

REF. NO	PART NO.	カンリ NO.	DESCRIPTION
1	82-ZM1-299-010		CHAS ASSY, R
2	82-ZM1-258-010		SPR-T, PINCH L
3	82-ZM1-248-110		LVR ASSY, PINCH L
4	82-ZM1-295-210		PLATE ASSY, LINK
5	82-ZM1-266-010		LVR, DIR
6	82-ZM1-214-010		SPR-T, DIR
7	82-ZM1-206-210		CHAS, HEAD
8	87-078-014-010		SH, 5-5-0.05
9	82-ZM1-269-010		SPR-T, BRG
10	82-ZM1-219-010		SPR-T, LINK
11	82-ZM1-210-010		GEAR, H T
12	82-ZM1-213-010		SPR-T, HEAD
13	82-ZM1-207-010		GUIDE, TAPE
14	82-ZM1-283-310		S-SCREW, AZIMUTH
15	82-ZM1-209-010		PLATE, HEAD
16	82-ZM1-208-010		HLDR, HEAD
17	82-ZM1-218-010		SPR-E, HB
18	82-ZM1-263-110		LVR, EJECT
19	82-ZM1-222-010		LVR, PLAY
20	82-ZM1-217-110		REEL TABLE
21	82-ZM1-244-110		SPR-C, BT
22	82-ZM1-285-110		SPR-C, BT L
23	82-ZM1-257-010		SPR-T, CAS
24	82-ZM1-241-110		LVR, MC
25	82-ZM1-242-010		LVR, CAS
26	82-ZM1-243-010		LVR, STOP
27	82-ZM1-253-110		LVR ASSY, PINCH R
28	82-ZM1-259-010		SPR-T, PINCH R
29	82-ZM1-240-110		LVR, REC
30	82-ZM1-298-010		SPR-P, EARTH
31	82-ZM1-255-110		SPR-E, LVR DIR
32	82-ZM1-221-110		GEAR, CAM
33	82-ZM1-227-110		LVR, TRIG
34	82-ZM1-224-110		LVR, FR
35	82-ZM1-305-010		SPR-E, TRIG 2
36	82-ZM1-277-010		SPR-C, PLAY
37	82-ZM1-223-010		GEAR, PLAY
38	82-ZM1-256-110		SPR-T, FR
39	82-ZM1-220-110		GEAR, IDLER
40	80-ZM6-217-010		RING MAGNET 2
41	82-ZM1-216-210		GEAR, REEL
42	82-ZM1-276-010		SPR-C, FR
43	82-ZM1-225-010		GEAR, FR
44	82-ZM1-226-010		GEAR, REW
45	82-ZM1-228-210		SLIP DISK ASSY
46	82-ZM1-261-110		BELT, FR
47	82-ZM1-237-210		FLY-WHL ASSY, R
48	82-ZM1-234-110		FLY-WHL ASSY, L
49	82-ZM1-260-010		BELT, MAIN
50	82-ZM1-245-210		HLDR, IC
51	82-ZM1-246-010		HLDR, MOTOR
52	82-ZM1-247-010		PULLEY, MOTOR
53	82-ZM1-288-010		SH, 1.63-3.2-0.5 SLT
54	80-ZM6-243-010		SH, 1.75-3.6-0.5 SLT
55	87-045-348-010		MOT, SHW 2L 70(M1)
56	87-046-399-010		HEAD, RPH YK56R-BS409(RPH)
A	87-585-036-410		UIT+2-8
B	80-ZM6-207-010		V+1.6-7
C	87-251-070-410		U+2.6-3
D	87-741-073-410		UT2+2.6-6 GLD
E	87-067-932-010		PW, 2.15-6.8-0.5 SLT

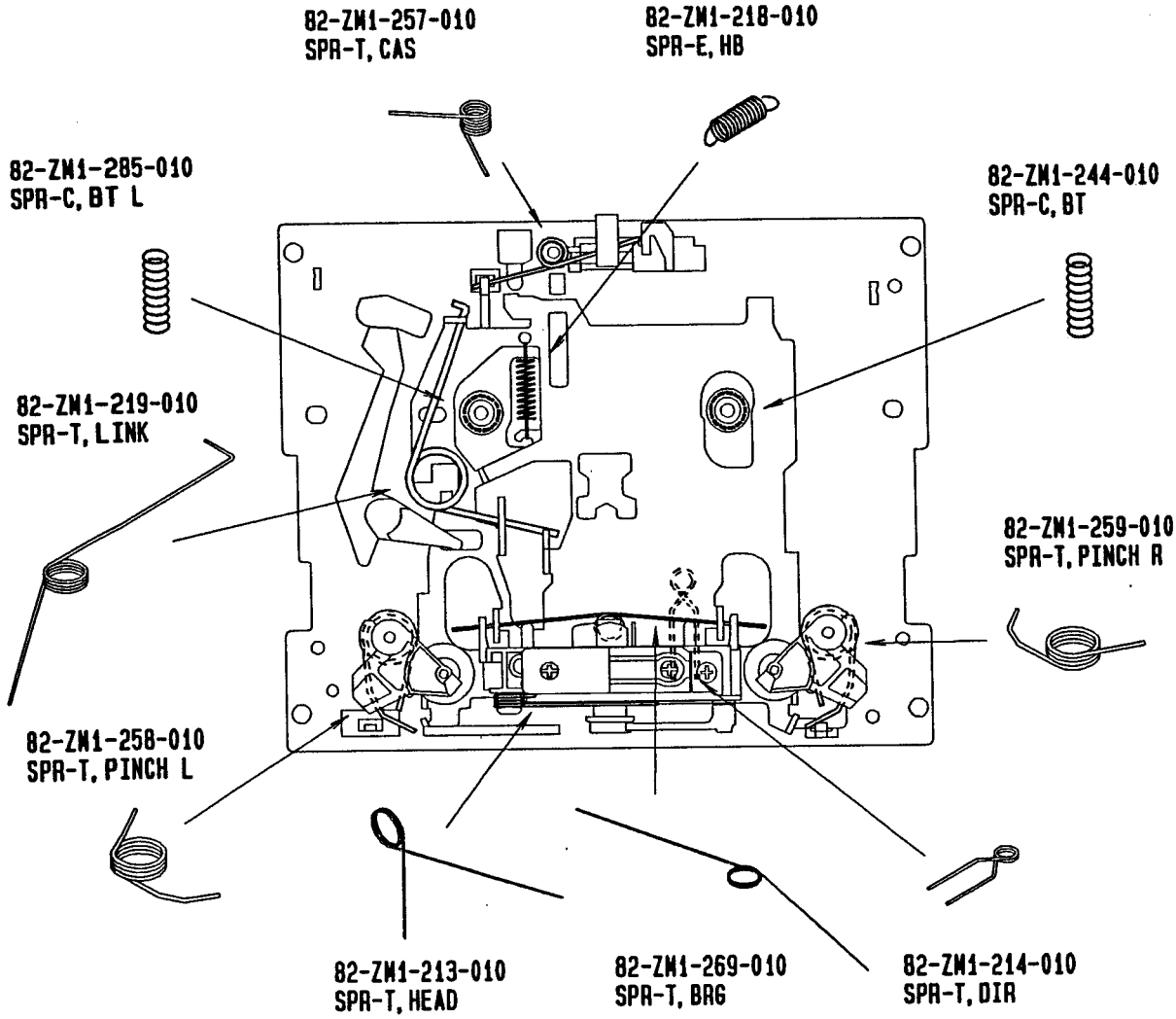
CD MECHANISM EXPLODED VIEW 1/1

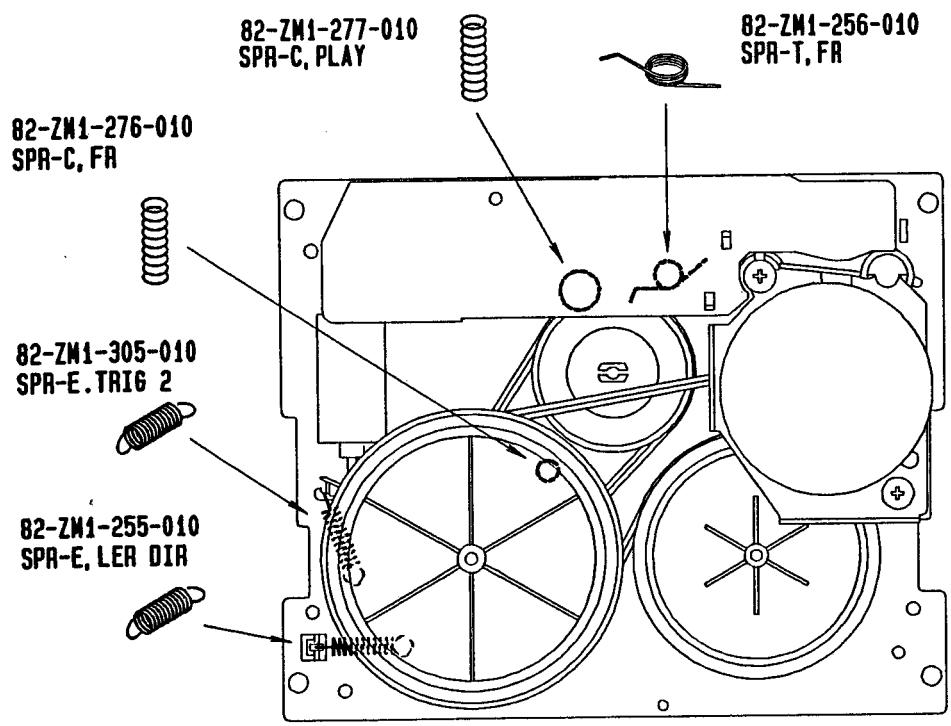


CD MECHANISM PARTS LIST 1/1

REF. NO	PART NO.	カンリ NO.	DESCRIPTION
1	9X-262-513-310		T. T CHASS ASSY W/MOTOR
2	92-625-188-020		GEAR(A)
3	92-625-544-010		COVER
4	92-625-187-010		RING CENTER
5	92-625-191-010		SPRING COMPRESSION
6	98-848-127-110		OPTICAL PICK UP KSS-210A
7	94-917-565-010		SHAFT SLED
A	87-261-032-210		V+2-3

SPRING APPLICATION POSITION





■ SPEAKER LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

SX-FN450

REF. NO	PART NO.	カンリ NO.	DESCRIPTION
1	83-NS8-021-010		PANEL FR
2	83-NS5-013-010		ADAPTOR ASSY
3	83-NS8-024-010		SPEAKER GRILL
4	83-NS8-602-010		SPEAKER WOOFER
5	83-NS8-606-010		SPEAKER MID
6	83-NS8-608-010		SPEAKER
7	83-NS8-025-010		GRILL FRAME ASSY
8	83-NS5-611-010		SPEAKER CORD Y/B
9	83-NS5-612-010		TERMINAL Y/B
10	83-NS5-613-010		SPEAKER CORD ASSY

SX-N400

REF. NO	PART NO.	カンリ NO.	DESCRIPTION
1	82-MSE-610-010		CERAMIC
2	83-NS8-001-010		PANEL FR. R
3	83-NS8-002-010		PANEL FR. L
4	83-NS8-007-010		GRILL FRAME ASSY
5	83-NS8-009-010		DIAPHRAGM
6	83-NS8-604-010		SPEAKER TWEETER
7	83-096-614-010		SPEAKER CORD

■ ACCESSORIES／PACKAGE LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	ｶﾝﾘ NO.	DESCRIPTION
	87-006-225-019		AM LOOP ANT NC2
	87-050-072-018		CORD, EURO CABLE
	81-ED1-024-019		DM-H15BYUBNCS
	87-043-106-019		FM, WIRE ANT (Z)
	83-NF8-905-018		IB, ESC(G)
	83-NFJ-909-010		IB, EGF-AP1(S)〈AP1〉
	83-NFJ-904-010		IB, ESC(G)〈400K〉
	83-NFJ-908-010		IB, ESC-G(S)〈EXCEPT 400K, AP1〉
	83-NFJ-911-010		IB, GF1-EZ, K(S)〈EXCEPT 400K, AP1〉
	83-NF8-906-018		IB, GF1(G)〈450G〉
	83-NF8-030-019		RC, RC-TN450 EX〈450G, AP1〉
	83-NFJ-030-010		RC, RC-TN400 EX

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, SERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER
サージサプレッサ	SERGESUPPRESSOR
セラコン	CAP,CERA

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL
ジグアーム	ARM,SHAFT
ジグガイド	GUIDE,SHAFT
ストラップ	STRAP
トクナベ	S-SCRW
ヒンジ	HINGE
ヒンジビス	S-SCRW
ビスセレート	SCRW,SERRART

サービス技術ニュース	
番号	連絡内容
G－　－	
G－　－	
G－　－	

アイワ株式会社
AIWA CO.,LTD.

〒110 東京都台東区池之端１－２－11　☎ 03 (3827) 3111 （代表）

931196, 750038

Tokyo Japan

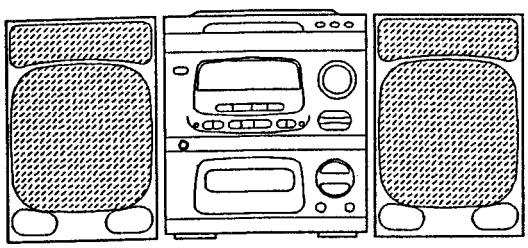
Printed in Singapore

aiwa

aiwa SERVICE

NSX-450G
NSX-400
CX-N4500G
CX-N4000
CX-N3900
CX-N450G
CX-N400
CX-NAP1

SERVICE MANUAL



COMPACT DISC STEREO SYSTEM

- BASIC TAPE MECHANISM: 2ZM-1 R2N
- BASIC CD MECHANISM: 4ZG-1GFR <450G,4500G>
  4ZG-1FR <EXCEPT 450G,4500G>
- TYPE: HE,HR,LH,HS,U,C
  EEZ,EZ,EE,K,Z,G

SUPPLEMENT

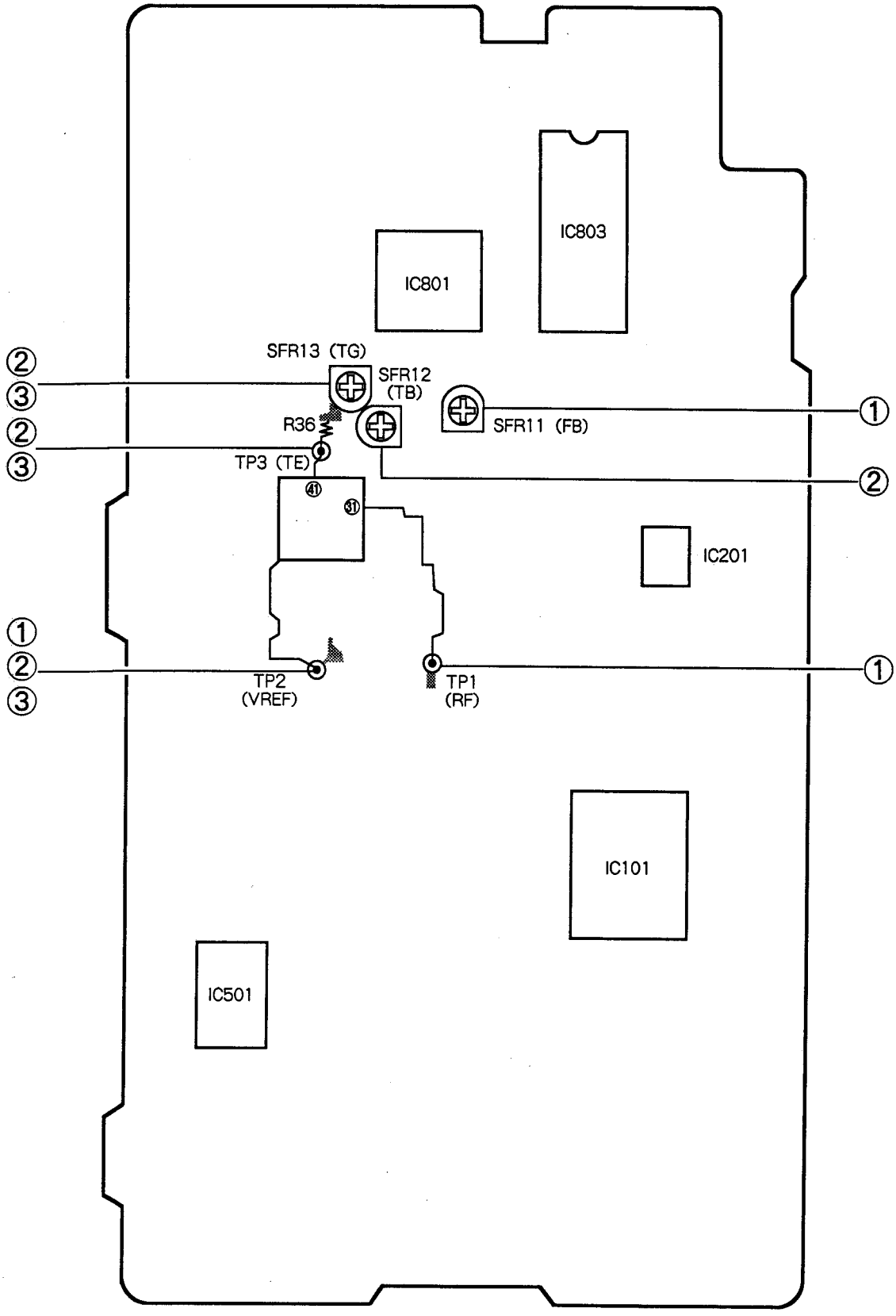
- CD mechanism of NSX-450G/400,CX-N4500G/N4000/N3900/N450G/N400/NAP1 is changed from 1ZG-1 to 4ZG-1.

- This Service Manual contains only electrical adjustment for CD block of NSX-450G/400,CX-N4500G/N4000/N3900/N450G/N400/NAP1.
  For CD biock, see Service Manual of 4ZG-1 (S/M Code No. 09-046-056-10T).
  If requiring the other information, see Service Manual
  NSX-450G/400 ‹HE,HR,LH› (S/M Code No. 09-947-061-10T),
  NSX-400 ‹HS› (S/M Code No. 09-94C-087-50T),
  CX-N4500G/N4000/N3900 ‹U,C› (S/M Code No. 09-948-067-50T),
  CX-N450G/N400/NAP1 ‹EEZ,EZ,EE,K,Z› (S/M Code No. 09-949-071-40T),
  CX-N400 ‹G› (S/M Code No. 09-94A-074-30T).

S/M Code No. 09-94B-086-40T

ELECTRICAL ADJUSTMENT (CD)

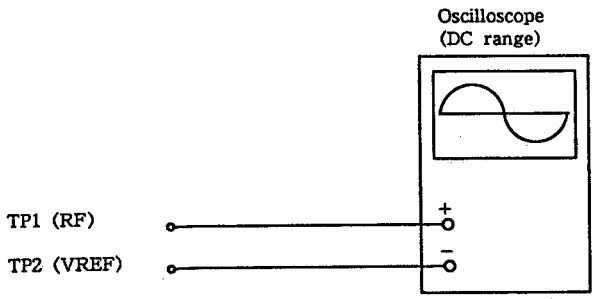
A 3CD C.B



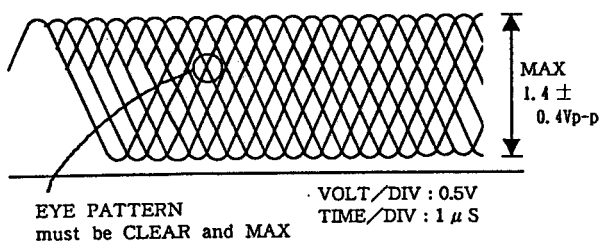
Note : Connect a probe (10 : 1) of the osilloscope or the frequency counter to a test point.

1. Focus Bias Adjustment

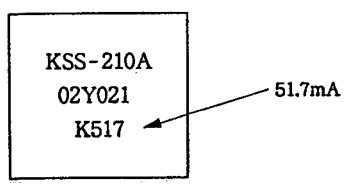
Make the focus bias adjustment when replacing and repairing the optical block.



1) Connect an oscilloscope to test points TP1 (RF) and TP2 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
4) Adjust SFR11 so that RF signal of test point TP1 (RF) is MAX and CLEARREST.

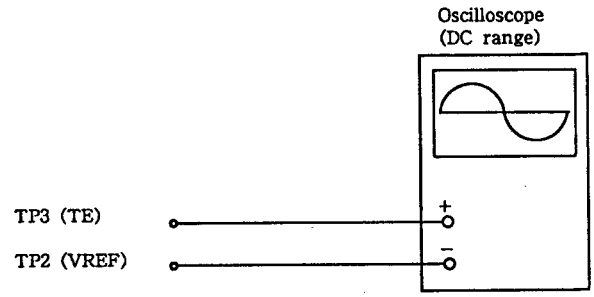


Note : The current of the laser signal can be checked with the voltages on both sides of R28 (10 Ω). Thedifference for the specified value shown on the lavel must be withim ± 6.0mA.

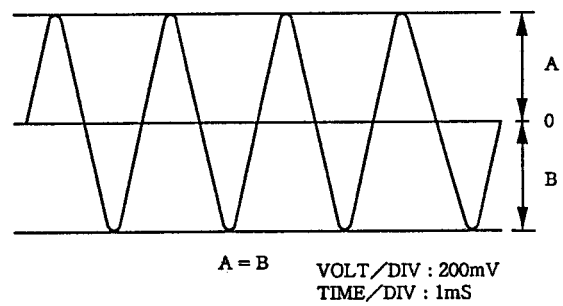


$$\text{Laser current } Iop = \frac{\text{Voltage across R28}}{10\ \Omega}$$

2. Tracking Balance Adjustment



1) Connect an oscilloscope to test points TP3 (TE) and TP2 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) andpress the PLAY button.
4) Connect the intermediate point of SFR13 to TP2 (VREF).
5) Adjust SFR12 so that the waveform on the oscilloscope is vertically symmetrical as shown in the figure below.
6) After the adjustment is completed, remove the connected lead wires from the terminals.



3. Tracking Gain Adjustment

A servo analyzer is necessary in order to perform this adjustment exactly. However, this gain has margin, so even if it is slightly off, there is no problem. Therfore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechinical shock when 2-axis device operates. However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise increases when the 2-axis device opearates.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.

When gain adjustment is off, the symptoms below appear.

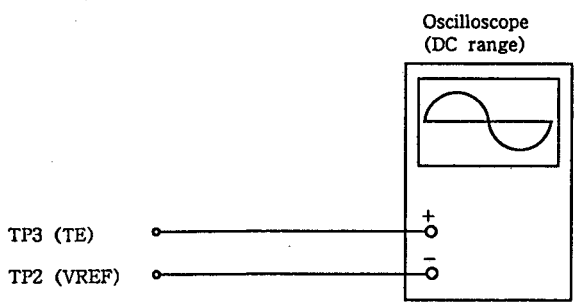
Gain / Symptoms	(Focus)	Tracking
● The time until music starts becomes longer for STOP→▶PLAY or automatic selection (⏮ ⏭ buttons pressed.) (Normally takes about 2 seconds.)	low	low or high
● Music does not start and disc continues to rotate for STOP→▶PLAY or automatic selection (⏮ ⏭ buttons pressed.)	–	low
● Disc stops to rotate shortly after STOP→▶PLAY.	low or high	–
● Sound is interrupted during PLAY. Or time counter display stops.	–	low
● More noises during the 2-axis device operation.	high	high

The following is simple adjustment method.

– Simple adjustment –

Note : Since exact adjustment cannot be performed, remember the positions of the controls before the performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

Procedure



サービス技術ニュース	
番 号	連絡内容
G — —	
G — —	
G — —	

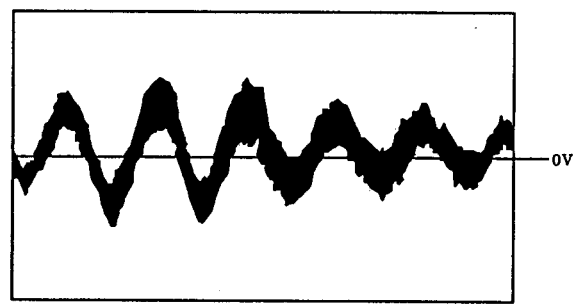
1) Keep the set horizontal.(If the set is not kept horizontally, this adjustment cannot be performed due to the gravity against the 2 – axis device.)
2) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
3) Connect an oscilloscope to TP3 (TE),TP2 (VREF) of the CD C.B.
4) Adjust SFR3 so that the waveform appears as shown in the figure below.(tracking gain adjustment)

VOLT/DIV : 50mV
TIME/DIV : 1mS

● Incorrect example

Low tracking gain

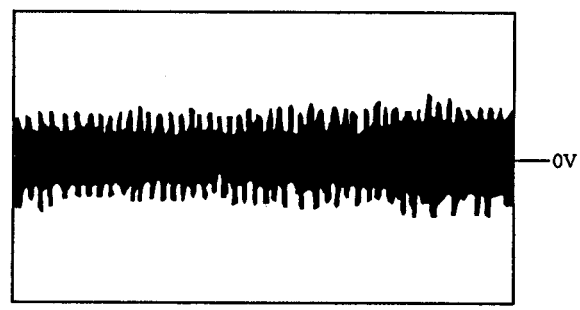
The fundamental wave appearsas compared with the waveform adjusted.



VOLT/DIV : 50mV
TIME/DIV : 1mS

High tracking gain

The frequency of the fundamental wave is higher than in low gain.



VOLT/DIV : 50mV
TIME/DIV : 1mS

アイワ株式会社
AIWA CO.,LTD.

931196 750038
Tokyo Japan

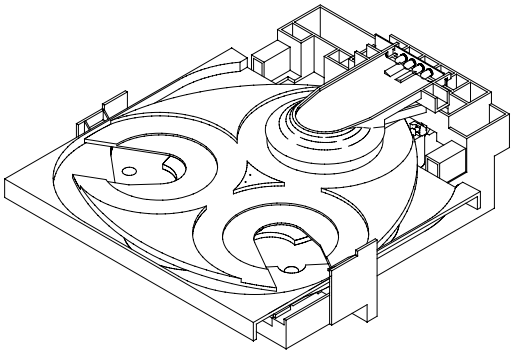
〒110 東京都台東区池之端1－2－11 ☎ 03 (3827) 3111 (代表)

Printed in Japan

aiwa

aiwa SERVICE

4ZG-1



CD MECHANISM

• BASIC CD MECHANISM:3ZG-2 E1

• TYPE: English

BASIC NAME	DERIVATION NAME					
4ZG-1	V	O	S1	D	SH	

■ This Service Manual has various derivation.Derivation name is indicated by the Service Manual for each model.

SERVICE MANUAL

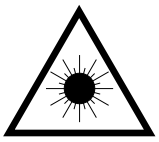
S/M Code No 09-985-249-80T

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynling laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

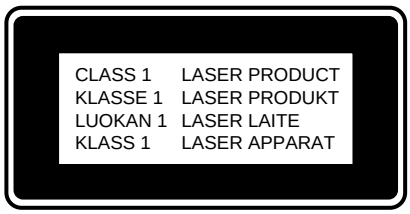
ATTENTION

L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!

Usynlig laserstråling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

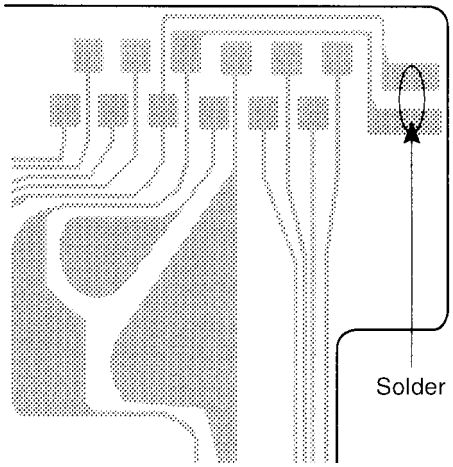


Precaution to replace Optical block (KSS-213F)

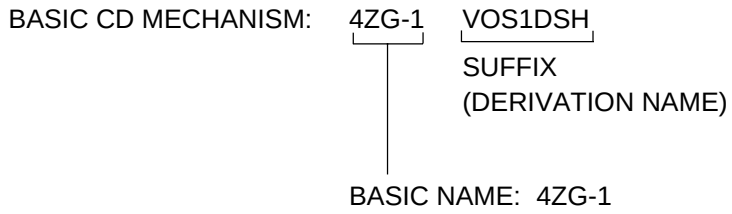
Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in the right figure.

PICK-UP Assy P.C.B



This is the SERVICE MANUAL for the BASIC CD MECHANISM of BASIC NAME: 4ZG-1. This BASIC NAME includes the following models as shown under the SUFFIX name: DERIVATION NAME. Please use this manual with the separate SERVICE MANUAL for DERIVATION NAME.



BASIC NAME	DERIVATION NAME							
4ZG-1	V	O	S1	D	SH	—	—	—

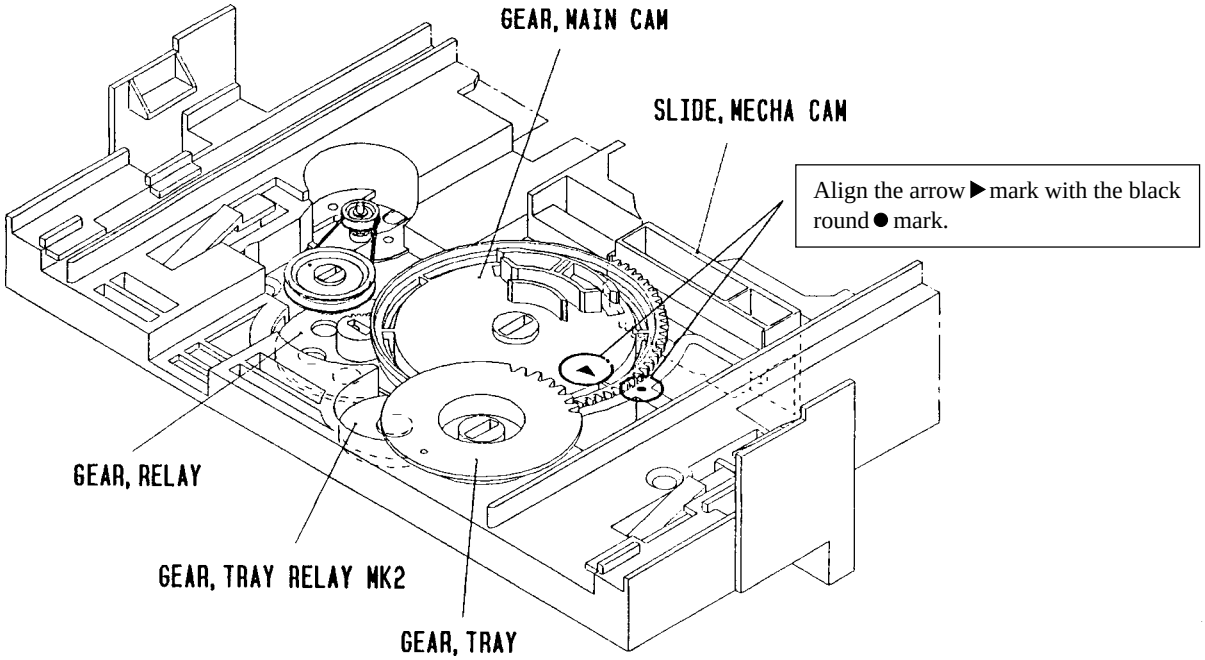
DERIVATION NAME

- V: VIDEO OUT
- O: On screen display
- S1: THE 1st SONY IC MODEL
- D: Digital output function
- SH: Pick up equipped with shutter

How to Adjust the Rotating Phase of the Gear, Main Cam

1) Push down the hooking catch of the CHAS. MECH, and remove the TRAY.
2) Align the arrow mark of the Gear, Main Cam with the black round mark of the CHAS, MECHA as shown below.
3) Confirm that the Slide, Mech Cam is located in the right position, then insert the TRAY gently.

Caution: If the rotating phase of the Gear, Main Cam is incorrectly adjusted, the chucking operation and tray movement will have malfunction.



ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

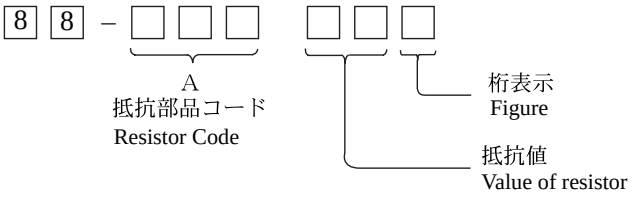
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-A20-547-010		C-IC,CXA1992AR
	87-A20-919-040		C-IC,BA5915FP
	87-A20-917-010		C-IC,CXD2540Q-1/2
	84-ZG1-697-010		C-IC,UPD78016FGC-549
	87-017-825-010		IC,GP1F32T
	87-017-760-080		IC,M51943BML
	87-A20-602-040		C-IC,M5291FP
	87-A20-925-040		C-IC,BA05FP
	87-A20-905-040		C-IC,BA033FP
	87-001-873-010		IC,LB1644
	87-A20-920-010		C-IC,CL680-D1
	87-A20-921-040		C-IC,SN74LVU04APW
	87-A20-656-040		C-IC,MB81V4260S-60/70PFTN
	84-ZG1-695-040		C-IC,LH5V2RN1
	87-A20-975-040		C-IC,SN74LV74APW
	87-A20-974-040		C-IC,LC74781M-9017
	87-A20-918-040		C-IC,SM5878AM
TRANSISTOR			
	87-026-463-080		TR,2SA933S (0.3W)
	87-026-237-080		CHIP-TR,DTC124XK
	89-327-125-080		CHIP TR,2SC2712GR
	87-026-231-080		CHIP-TRANSISTER,DTA124XK
	87-A30-117-010		TR,2SA1357
	89-111-625-080		TR,2SA1162 (0.15W)
	87-026-580-080		C-TR,DTA123JK
	87-026-470-080		TR,HN1C03F (0.3W)
DIODE			
	87-020-027-080		CHIP-DIODE 1SS184
	87-017-024-040		C-DIODE,DA204K
	87-A40-180-040		C-DIODE,SB07-015C
	87-A40-384-080		C-ZENER,UDZ3.3B
3CD C.B			
C101	87-010-182-080		C-CAP,S 2200P-50 B
C102	87-016-669-080		C-CAP,S 0.1-25 K B
C103	87-016-669-080		C-CAP,S 0.1-25 K B
C104	87-016-669-080		C-CAP,S 0.1-25 K B
C105	87-010-404-040		CAP,E 4.7-50 SME
C106	87-016-369-080		C-CAP,S 0.033-25 B K
C107	87-010-197-080		CAP, CHIP 0.01 DM
C108	87-010-401-040		CAP,E 1-50 SME
C109	87-010-382-040		CAP,E 22-25 SME
C110	87-010-213-080		C-CAP,S 0.015-50 B
C111	87-010-263-040		CAP,E 100-10
C112	87-010-197-080		CAP, CHIP 0.01 DM
C113	87-016-369-080		C-CAP,S 0.033-25 B K
C114	87-016-369-080		C-CAP,S 0.033-25 B K
C115	87-016-369-080		C-CAP,S 0.033-25 B K
C116	87-012-158-080		C-CAP,S 390P-50 CH
C117	87-012-154-080		C-CAP,S 150P-50 CH
C118	87-010-494-040		CAP,E 1-50 GAS
C119	87-010-152-080		C-CAP,S 8P-50 CH
C120	87-010-992-080		C-CAP,S 0.047-25 B
C121	87-010-992-080		C-CAP,S 0.047-25 B
C123	87-016-669-080		C-CAP,S 0.1-25 K B
C125	87-010-198-080		CAP, CHIP 0.022
C126	87-016-669-080		C-CAP,S 0.1-25 K B
C127	87-010-555-040		CAP,E 100-10 GAS
C130	87-010-555-040		CAP,E 100-10 GAS
C131	87-010-555-040		CAP,E 100-10 GAS
C132	87-010-178-080		CHIP CAP 1000P
C133	87-010-555-040		CAP,E 100-10 GAS
C134	87-010-196-080		CHIP CAPACITOR,0.1-25
C135	87-010-196-080		CHIP CAPACITOR,0.1-25
C136	87-010-196-080		CHIP CAPACITOR,0.1-25
C137	87-010-196-080		CHIP CAPACITOR,0.1-25
C138	87-010-182-080		C-CAP,S 2200P-50 B
C139	87-010-197-080		CAP, CHIP 0.01 DM
C140	87-010-112-040		CAP,E 100-16
C141	87-010-196-080		CHIP CAPACITOR,0.1-25
C142	87-010-196-080		CHIP CAPACITOR,0.1-25
C143	87-010-213-080		C-CAP,S 0.015-50 B
C151	87-010-263-040		CAP,E 100-10
C152	87-010-197-080		CAP, CHIP 0.01 DM
C153	87-A10-893-040		CAP,E 220-10 M PW
C154	87-010-197-080		CAP, CHIP 0.01 DM
C155	87-010-184-080		CHIP CAPACITOR 3300P(K)
C156	87-010-992-080		C-CAP,S 0.047-25 B
C157	87-010-992-080		C-CAP,S 0.047-25 B
C158	87-012-156-080		C-CAP,S 220P-50 CH
C159	87-016-526-080		C-CAP,S 0.47-16 BK
C160	87-010-314-080		C-CAP,S 22P-50V
C161	87-010-182-080		C-CAP,S 2200P-50 B
C162	87-010-178-080		CHIP CAP 1000P
C201	87-016-669-080		C-CAP,S 0.1-25 K B
C204	87-010-197-080		CAP, CHIP 0.01 DM
C205	87-010-379-040		CAP,E 22-16 M SME
C206	87-010-322-080		C-CAP,S 100P-50 CH
C207	87-010-322-080		C-CAP,S 100P-50 CH
C208	87-010-322-080		C-CAP,S 100P-50 CH
C209	87-010-322-080		C-CAP,S 100P-50 CH
C210	87-016-669-080		C-CAP,S 0.1-25 K B
C211	87-010-263-040		CAP,E 100-10
C213	87-010-190-080		S CHIP F 0.01
C214	87-010-196-080		CHIP CAPACITOR,0.1-25
C301	87-016-251-040		CAP,E 220-16 SMG
C302	87-012-140-080		CAP 470P
C303	87-010-178-080		CHIP CAP 1000P
C304	87-010-384-040		CAP,E 100-25 SME
C305	87-010-982-040		CAP,E 33-25 GAS
C306	87-010-112-040		CAP,E 100-16
C307	87-010-196-080		CHIP CAPACITOR,0.1-25
C308	87-010-263-040		CAP,E 100-10
C309	87-010-196-080		CHIP CAPACITOR,0.1-25
C310	87-010-263-040		CAP,E 100-10
C311	87-010-196-080		CHIP CAPACITOR,0.1-25
C312	87-010-178-080		CHIP CAP 1000P
C320	87-010-196-080		CHIP CAPACITOR,0.1-25
C401	87-016-044-040		CAP,E 100-16 GAS
C402	87-010-190-080		S CHIP F 0.01
C403	87-010-190-080		S CHIP F 0.01
C501	87-010-197-080		CAP, CHIP 0.01 DM
C502	87-010-197-080		CAP, CHIP 0.01 DM
C503	87-010-197-080		CAP, CHIP 0.01 DM
C504	87-010-154-080		CAP CHIP 10P
C505	87-010-154-080		CAP CHIP 10P
C506	87-010-197-080		CAP, CHIP 0.01 DM
C508	87-010-263-040		CAP,E 100-10
C509	87-016-669-080		C-CAP,S 0.1-25 K B
C510	87-010-263-040		CAP,E 100-10
C511	87-016-669-080		C-CAP,S 0.1-25 K B
C512	87-010-197-080		CAP, CHIP 0.01 DM
C513	87-010-197-080		CAP, CHIP 0.01 DM
C514	87-010-197-080		CAP, CHIP 0.01 DM
C518	87-010-322-080		C-CAP,S 100P-50 CH
C519	87-012-145-080		CAP, CHIP S 270P CH
C520	87-012-157-080		C-CAP,S 330P-50 CH
C521	87-012-154-080		C-CAP,S 150P-50 CH
C522	87-010-371-080		CAP, ELECT 470-6.3V
C523	87-010-197-080		CAP, CHIP 0.01 DM
C524	87-010-197-080		CAP, CHIP 0.01 DM
C525	87-010-197-080		CAP, CHIP 0.01 DM
C526	87-010-197-080		CAP, CHIP 0.01 DM

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C527	87-010-197-080		CAP, CHIP 0.01 DM
C528	87-010-197-080		CAP, CHIP 0.01 DM
C529	87-010-197-080		CAP, CHIP 0.01 DM
C530	87-010-197-080		CAP, CHIP 0.01 DM
C531	87-010-197-080		CAP, CHIP 0.01 DM
C532	87-010-374-040		CAP,E 47-10
C533	87-010-197-080		CAP, CHIP 0.01 DM
C534	87-010-555-040		CAP,E 100-10 GAS
C535	87-010-197-080		CAP, CHIP 0.01 DM
C536	87-010-078-040		CAP,E 47-6.3 5L
C537	87-010-197-080		CAP, CHIP 0.01 DM
C538	87-010-196-080		CHIP CAPACITOR,0.1-25
C539	87-016-669-080		C-CAP,S 0.1-25 K B
C540	87-010-078-040		CAP,E 47-6.3 5L
C541	87-010-197-080		CAP, CHIP 0.01 DM
C542	87-010-318-080		C-CAP,S 47P-50 CH
C544	87-010-197-080		CAP, CHIP 0.01 DM
C546	87-010-197-080		CAP, CHIP 0.01 DM
C549	87-010-494-040		CAP,E 1-50 GAS
C550	87-010-196-080		CHIP CAPACITOR,0.1-25
C551	87-012-153-080		C-CAP,S 120P-50 CH
C552	87-016-526-080		C-CAP,S 0.47-16 BK
C554	87-010-197-080		CAP, CHIP 0.01 DM
C556	87-010-378-040		CAP,E 10-16
C557	87-010-316-080		C-CAP,S 33P-50 CH
C558	87-010-315-080		C-CAP,S 27P-50 CH
C560	87-010-197-080		CAP, CHIP 0.01 DM
C601	87-010-197-080		CAP, CHIP 0.01 DM
C602	87-010-197-080		CAP, CHIP 0.01 DM
C603	87-010-112-040		CAP,E 100-16
C604	87-010-196-080		CHIP CAPACITOR,0.1-25
C605	87-010-197-080		CAP, CHIP 0.01 DM
C606	87-010-197-080		CAP, CHIP 0.01 DM
C607	87-010-313-080		CAP, CHIP 18P
C608	87-010-313-080		CAP, CHIP 18P
C609	87-010-178-080		CHIP CAP 1000P
C610	87-010-178-080		CHIP CAP 1000P
C611	87-010-178-080		CHIP CAP 1000P
C612	87-010-178-080		CHIP CAP 1000P
C613	87-010-403-040		CAP,E 3.3-50 SME
C614	87-010-403-040		CAP,E 3.3-50 SME
C615	87-010-318-080		C-CAP,S 47P-50 CH
C616	87-010-318-080		C-CAP,S 47P-50 CH
CN101	87-A60-424-010		CONN,16P V TOC-B
CN102	87-099-199-010		CONN,6P 6216 H
CN401	87-099-212-010		CONN,5P 6216 V
CN403	87-099-030-010		CONN,13P 6216H
J501	87-009-502-010		JACK,PIN 1P Y EARTH
L101	87-005-196-080		COIL,10UH
L301	87-A50-095-010		COIL,68UH RCR875D
L302	87-005-426-080		COIL,3.3UH K FLR50
L502	87-005-204-080		COIL,47UH
L503	87-005-189-080		COIL 2.7UH
L504	87-005-187-080		COIL,1.8UH
L505	87-005-204-080		COIL,47UH
L506	87-005-204-080		COIL,47UH
L507	87-005-204-080		COIL,47UH
L508	87-005-817-080		C-COIL, 33UH J FLC32
M401	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)
R130	87-022-364-080		C-RES,S 82K-1/10W F
R131	87-022-364-080		C-RES,S 82K-1/10W F
R132	87-022-364-080		C-RES,S 82K-1/10W F
R133	87-022-364-080		C-RES,S 82K-1/10W F
R134	87-022-364-080		C-RES,S 82K-1/10W F
R135	87-022-364-080		C-RES,S 82K-1/10W F
R507	87-A00-408-080		C-RES,S 2K-1/10W D
S201	87-A90-162-010		SW,SL 1-1-3 SSSU
S401	87-036-109-010		PUSH SWITCH
S402	87-036-109-010		PUSH SWITCH
W1	84-ZG1-673-010		F-CABLE,5P 1.25 210MM BLACK N
W2	85-NFT-611-110		FF-CABLE 16P-1.0
W3	84-ZG1-630-010		CABLE FFC 6P-1.25
X201	87-A70-124-080		VIB,CER 8.0MHZ
X501	87-A70-125-080		VIB,XTAL 27MHZ 50PPM
X601	87-030-270-080		VIB,XTAL 16.9344MHZ
LED C.B			
LED401	87-070-200-080		LED,SLP636C-81-S-T1
LED402	87-017-350-080		LED,SEL1550CM
LED403	87-017-350-080		LED,SEL1550CM
LED404	87-070-200-080		LED,SLP636C-81-S-T1
T-T C.B			
C401	87-018-214-080		CAP TC U 0.1-50F
CON401	86-NFZ-675-010		CONN,5P H 6216-11H
PS401	87-026-573-010		IC,GP1S53V
DRIVE C.B			
CN3	87-009-349-010		CONN,6P H WHT PH
M20	87-045-358-010		MOT,RF-310TA 43
M21	87-045-356-010		MOT,RF-310TA 30
SW1	87-A90-042-010		SW,LEAF MSW-17310MVPO
CD MOTOR C.B			
CN4	87-099-210-010		CONN,5P H BLK 6216
M1	87-045-305-010		MOT,RF-500TB
SW1	87-035-110-010		SW,MICRO SPPB62
SW2	87-035-110-010		SW,MICRO SPPB62

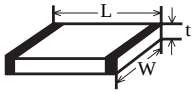
- Regarding connectors, they are not stocked as they are not the initial order items.
  The connectors are available after they are supplied from connector manufacturers upon the order is received.

○ チップ抵抗部品コード / CHIP RESISTOR PART CODE

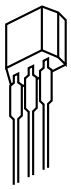
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



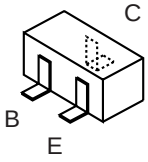
チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法 / Diamensions (mm)				抵抗コード　: A Resistor Code : A
				外形 / Form	L	W	t	
1/16W	1608	5%	CJ		1.6	0.8	0.45	108
1/10W	2125	5%	CJ		2	1.25	0.45	118
1/8W	3216	5%	CJ		3.2	1.6	0.55	128

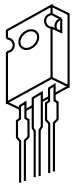
TRANSISTOR ILLUSTRATION



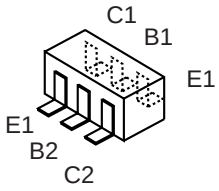
2SA933S



2SA1162
2SC2712
DTA123JK
DTA124XK
DTC124XK

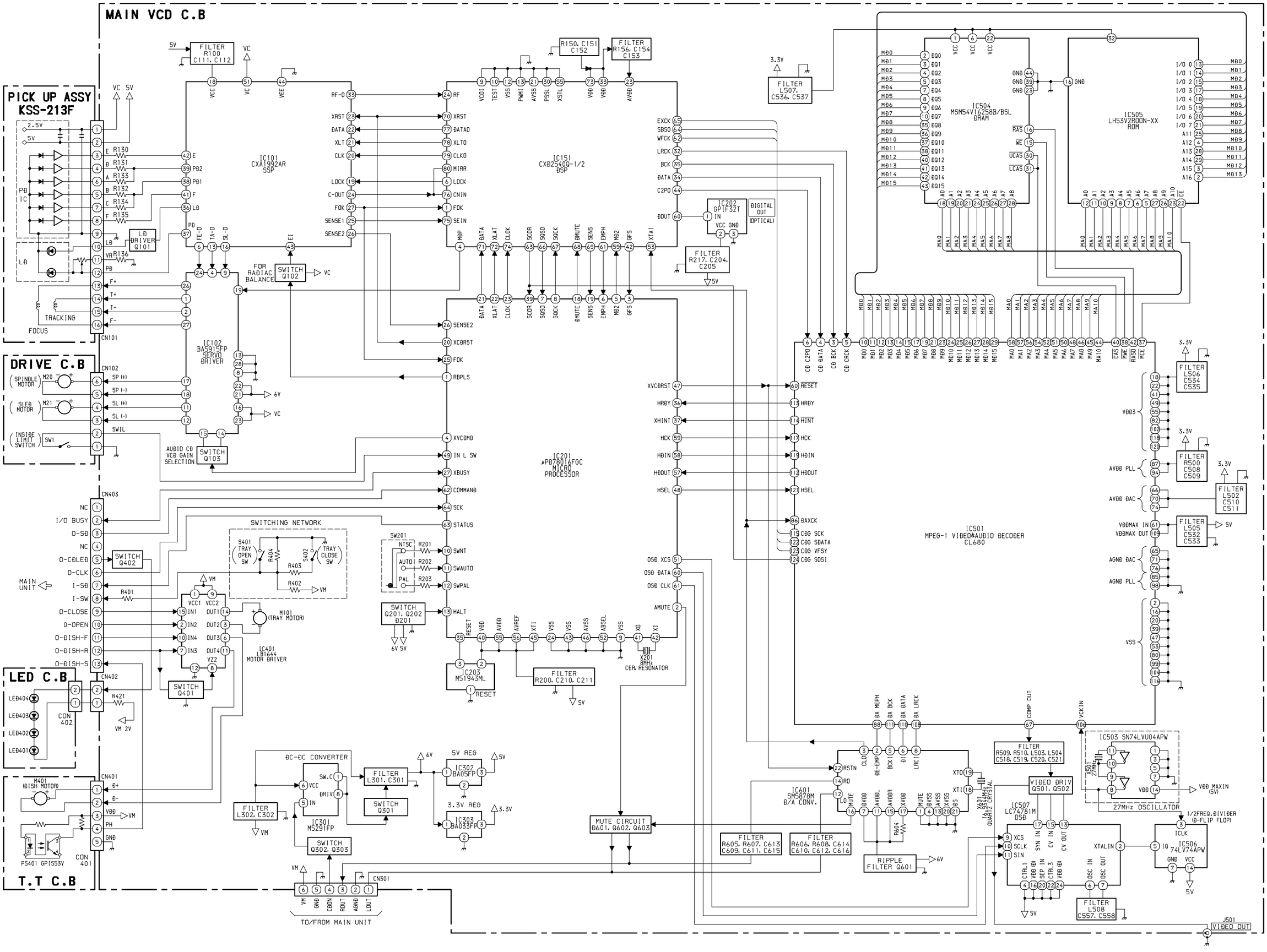


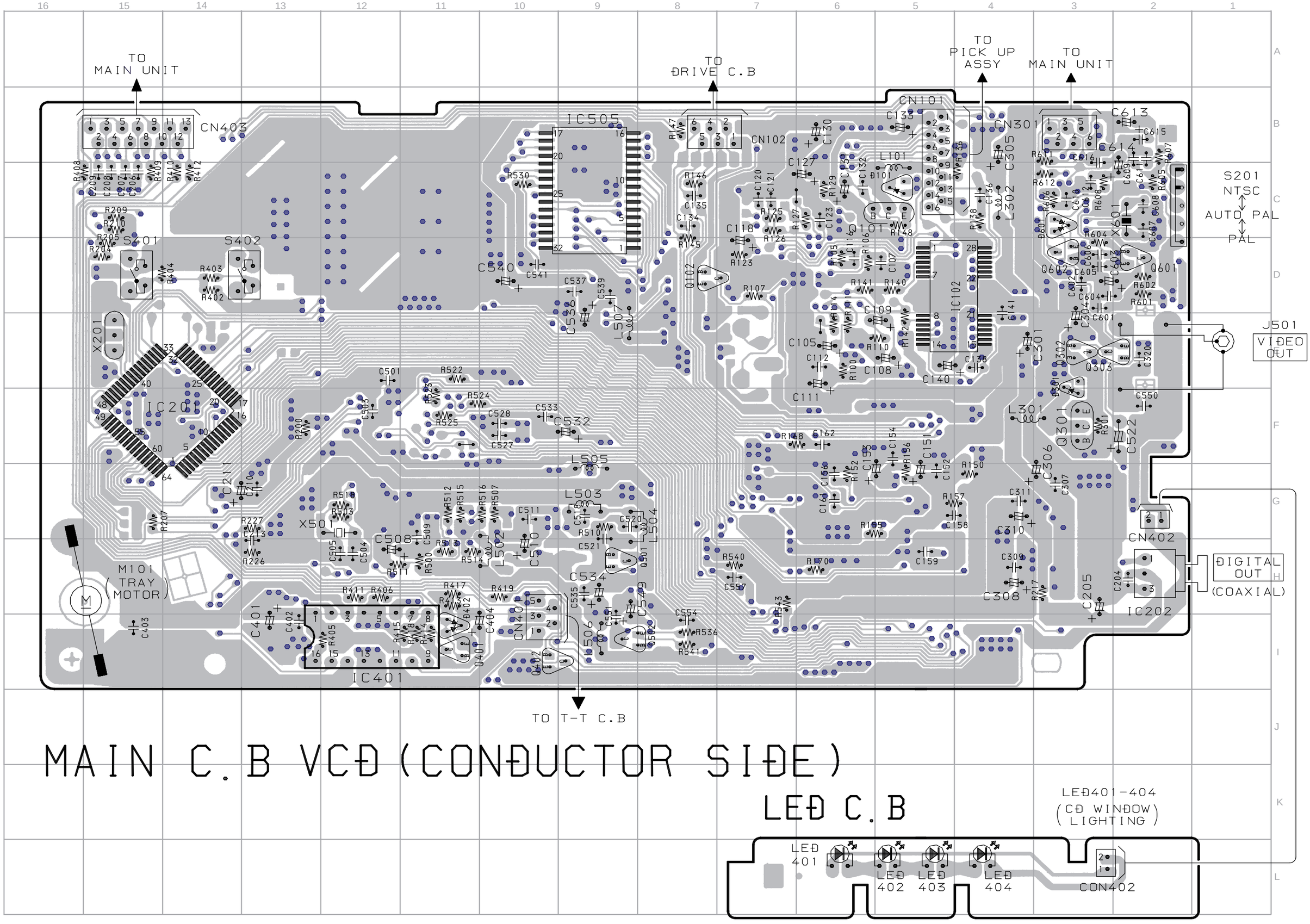
2SA1357

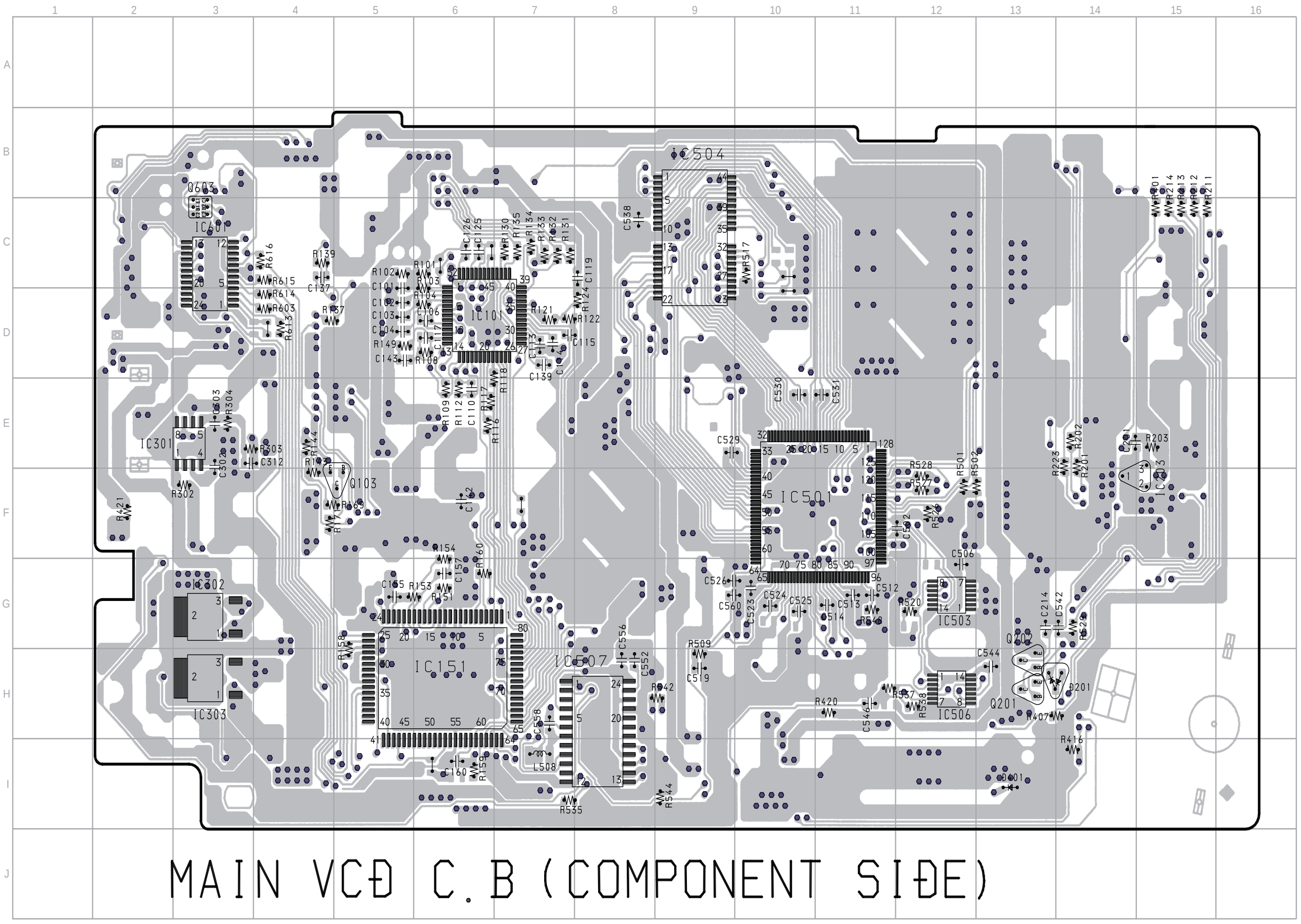


HN1C03F

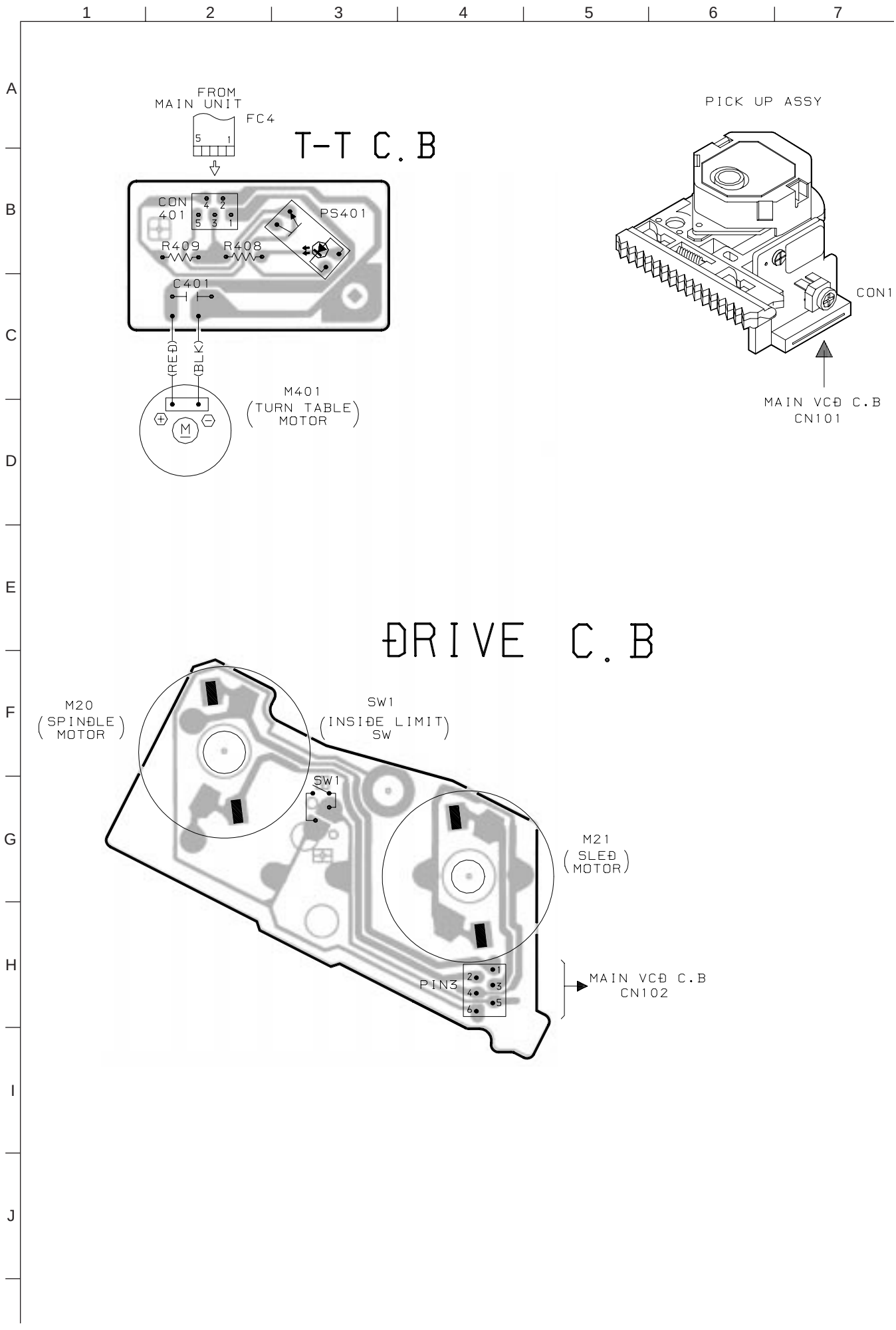
BLOCK DIAGRAM



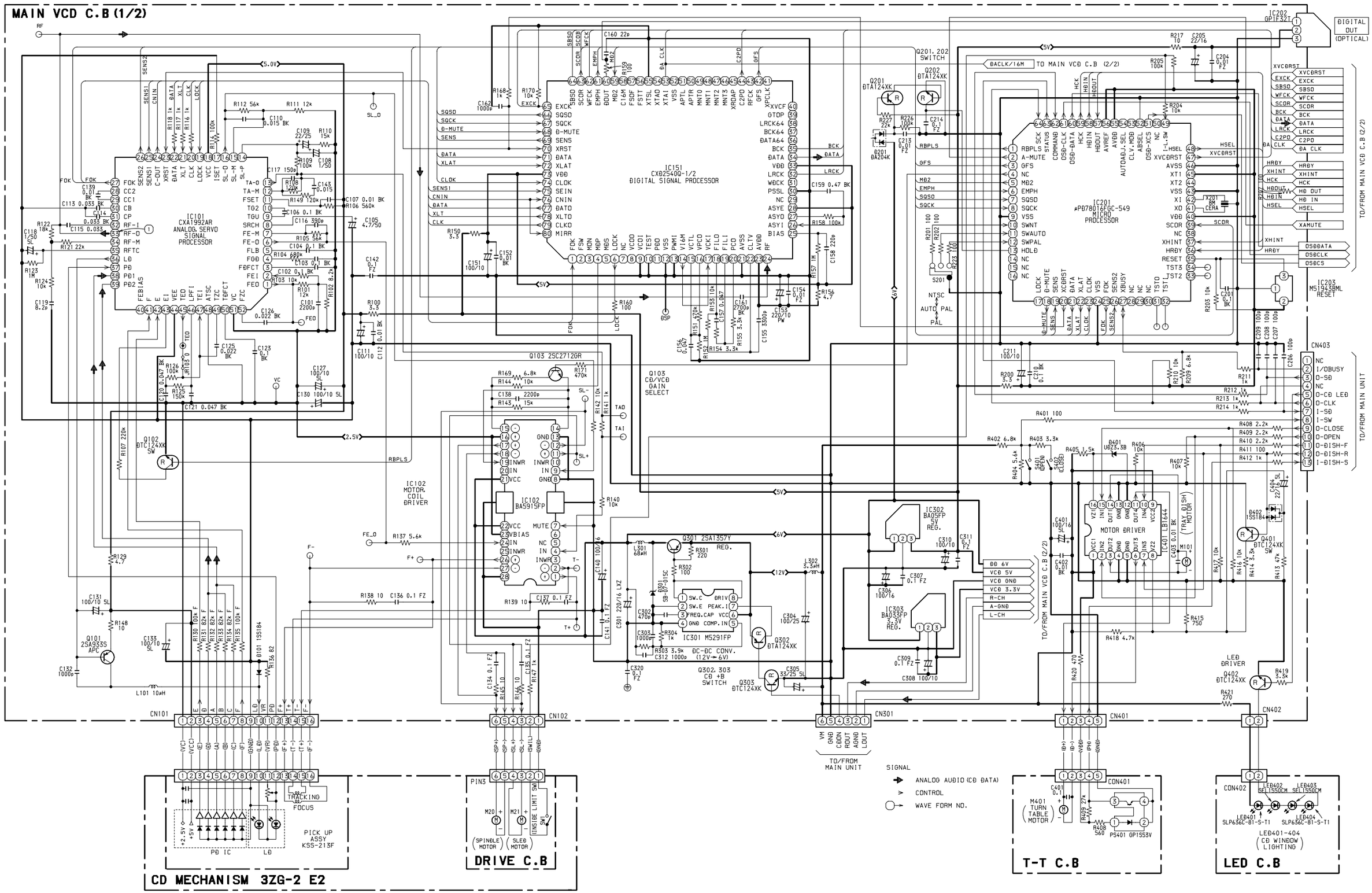

TO MAIN UNIT
TO ÐRIVE C.B
TO PICK UP ASSY
TO MAIN UNIT
CN403
CN102
CN101
CN301
CN402
IC505
IC201
IC401
IC202
IC102
S401
S402
S201 NTSC AUTO PAL PAL
J501 VIÐEO OUT
ÐIGITAL OUT (COAXIAL)
M101 (TRAY MOTOR)
TO T-T C.B
MAIN C.B VCÐ (CONÐUCTOR SIÐE)
LEÐ C.B
LEÐ401-404 (CÐ WINÐOW LIGHTING)
LEÐ 401
LEÐ 402
LEÐ 403
LEÐ 404
CON402

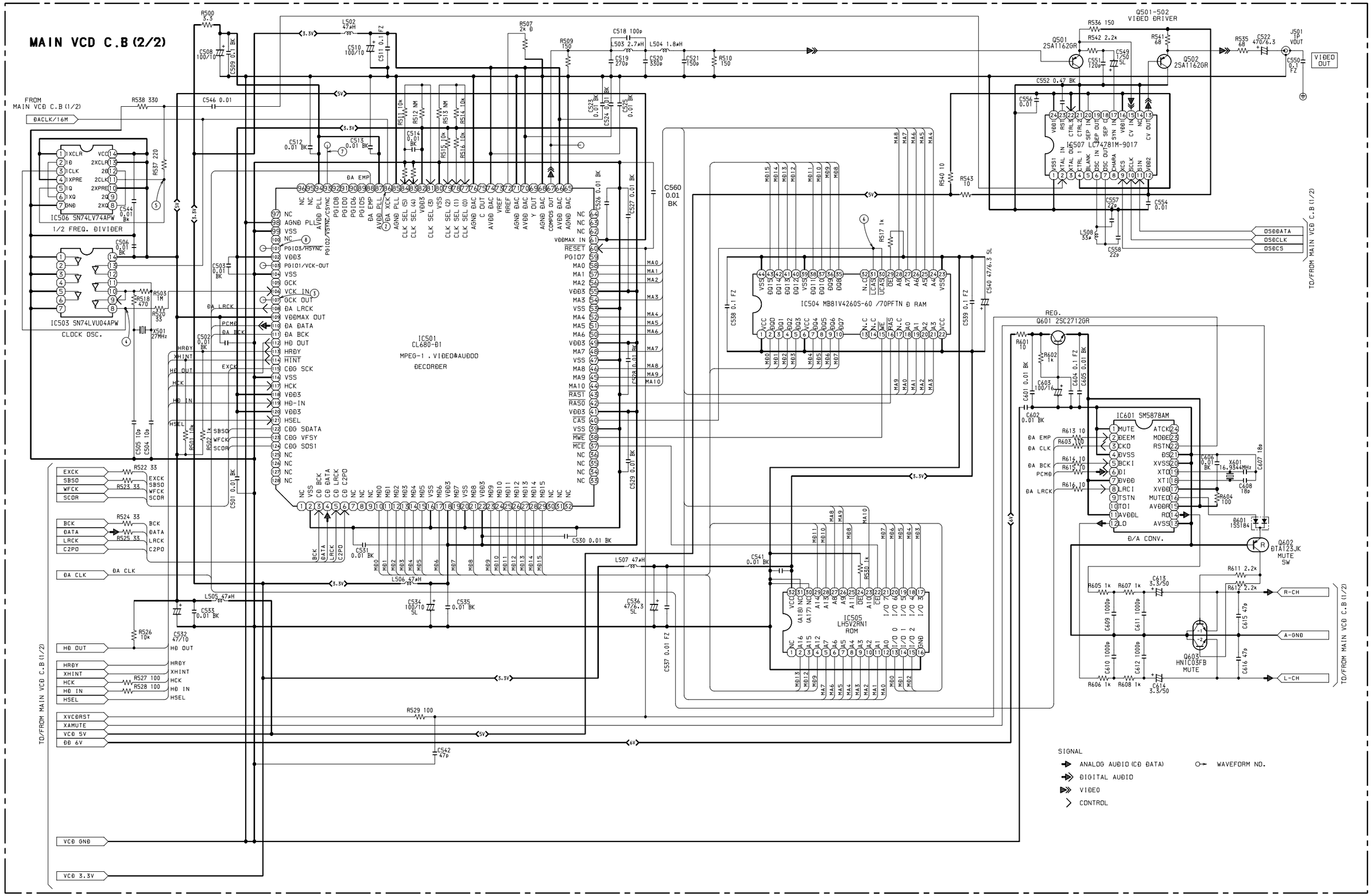


MAIN VCÐ C.B (COMPONENT SIÐE)


FROM
MAIN UNIT
FC4
5
1
T-T C.B
CON
401
4
2
5
3
1
PS401
R409
R408
C401
(RED)
(BLK)
M401
(TURN TABLE
MOTOR)
M
PICK UP ASSY
CON1
MAIN VCD C.B
CN101
DRIVE C.B
M20
(SPINDLE
MOTOR)
SW1
(INSIDE LIMIT
SW)
SW1
M21
(SLED
MOTOR)
PIN3
1
2
3
4
5
6
MAIN VCD C.B
CN102

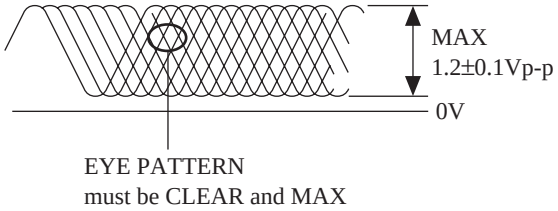
SCHEMATIC DIAGRAM-1




MAIN VCD C.B (2/2)
FROM MAIN VCD C.B (1/2)
ÐACLK/16M
IC506 SN74LV74APW
1/2 FREQ. ÐIVIÐER
IC503 SN74LVU04APW
CLOCK OSC.
X501 27MHz
IC501 CL680-Ð1
MPEG-1 . VIÐEO&AUÐIO ÐECORÐER
IC504 MB81V4260S-60 /70PFTN Ð RAM
IC505 LH5V2RN1 ROM
IC507 LC74781M-9017
Q501-502 VIÐEO ÐRIVER
Q501 2SA1162GR
Q502 2SA1162GR
REG. Q601 2SC2712GR
IC601 SM5878AM
Ð/A CONV.
Q602 ÐTA123JK MUTE SW
Q603 HN1C03FB MUTE
D601 1SS184
VIÐEO OUT
TO/FROM MAIN VCÐ C.B (1/2)
TO/FROM MAIN VCÐ C.B (1/2)
OSÐÐATA
OSÐCLK
OSÐCS
R-CH
A-GNÐ
L-CH
SIGNAL
ANALOG AUÐIO (CÐ ÐATA)
ÐIGITAL AUÐIO
VIÐEO
CONTROL
WAVEFORM NO.

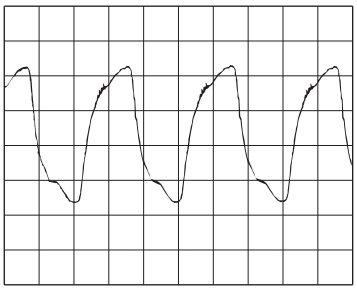
WAVE FORM

① IC101 Pin ㉝ (RF-O)
VOLT/DIV: 200mV
TIME/DIV: 0.5µS

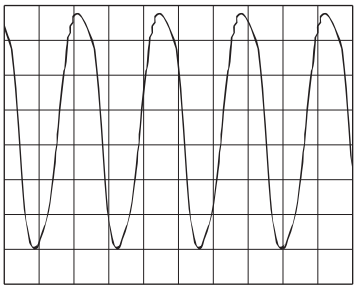


EYE PATTERN
must be CLEAR and MAX

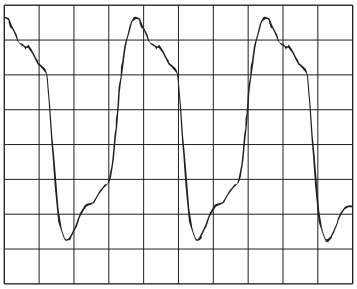
② IC501 Pin ㊽ DA XCK
16.93MHz
VOLT/DIV: 1V
TIME/DIV: 20nS



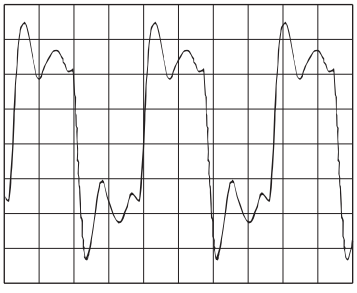
③ IC501 Pin ⑩⑦ GCK OUT
42.3MHz
VOLT/DIV: 1V
TIME/DIV: 10nS



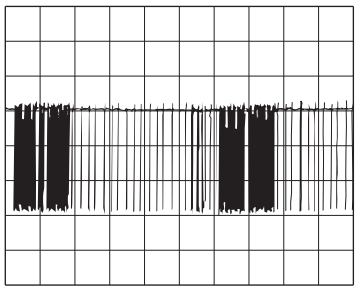
④ IC503 Pin ⑧ 33 VCK
27MHz±1.35kHz
VOLT/DIV: 1V
TIME/DIV: 10nS



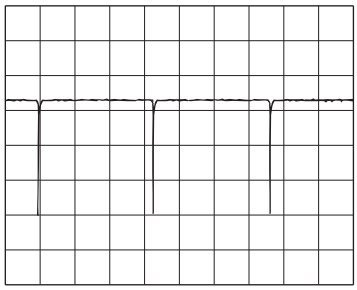
⑤ IC506 Pin ⑪ OSD CLK
13.5MHz±675Hz
VOLT/DIV: 1V
TIME/DIV: 20nS



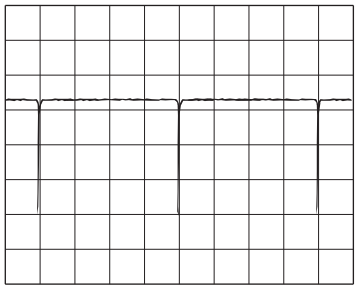
⑥ IC504 Pin ㉚ $\overline{\text{UCAS}}$
(Pin ㉛ $\overline{\text{LCAS}}$)
VOLT/DIV: 1V
TIME/DIV: 2µS



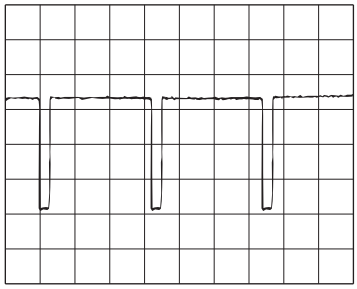
⑦ IC501 Pin ㉝ $\overline{\text{VSync}}$
NTSC
VOLT/DIV: 1V
TIME/DIV: 5mS



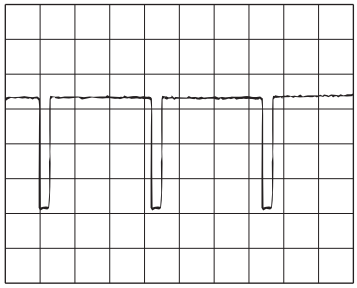
⑧ IC501 Pin ㉝ $\overline{\text{VSync}}$
PAL
VOLT/DIV: 1V
TIME/DIV: 5mS



⑧ IC501 Pin ⑩① $\overline{\text{HSync}}$
PAL
VOLT/DIV: 1V
TIME/DIV: 20µS



IC501 Pin ⑩① $\overline{\text{HSync}}$
NTSC
VOLT/DIV: 1V
TIME/DIV: 20µS



IC DESCRIPTION

IC, CXA1992AR

Pin No.	Pin Name	I/O	Description
1	FEO	O	Output terminal for focus error amplifier. Internally connected to window comparator input for bias condition.
2	FEI	I	Input terminal for focus error.
3	FDFCT	I	Capacitor connection terminal for time constant used when there is defect.
4	FGD	I	This pin is connected to GND via capacitor when high frequency gain of the focus servo is attenuated.
5	FLB	I	This is a pin where the time constant is externally connected to raise the low frequency gain of the focus servo.
6	FE_O	O	Focus drive output.
7	FEM	I	Focus amplifier inverted input pin.
8	SRCH	I	This is a pin where the time constant is externally connected to generate the focus search waveform.
9	TGU	I	This is a pin where the selection time constant is externally connected to set the tracking servo the high frequency gain.
10	TG2	I	This is a pin where the selection time constant is externally connected to set the tracking high frequency gain.
11	FSET	I	Pin for setting peak of the phase compensator of the focus tracking.
12	TA_M	I	Tracking amplifier inverted input pin.
13	TA_O	O	Tracking drive output.
14	SL_P	I	Sled amplifier non-inverted input pin.
15	SL_M	I	Sled amplifier inverted input pin.
16	SL_O	O	Sled drive output.
17	ISET	I	The current which determines height of the focus search, track jump and sled kick is input with external resistance connected.
18	Vcc	I	Power supply.
19	LOCK	I	“L” setting starts sled disorder-prevention circuit. (Not pull-up resistance)
20	CLK	I	Clock input for serial data transfer from CPU. (No pull-up resistance)
21	XLT	I	Latch input from CPU. (No pull-up resistance)
22	DATA	I	Serial data input from CPU. (No pull-up resistance)
23	XRST	I	Reset system at “L” setting. (No pull-up resistance)
24	C_OUT	O	Signal output for track number counting.
25	SENS1	O	FZC, DFCT1, TZC, BALH, TGH, FOH, or ATSC is output depending on the command from CPU.
26	SENS2	O	DFCT2, MIRR, BALL, TGL or FOL is output depending on the command from CPU.
27	FOK	O	Output terminal for focus OK comparator.
28	CC2	I	Input pin where the DEFECT bottom hold output is capacitance coupled.
29	CC1	O	DEFECT bottom-hold output terminal. Internally connected to interruption comparator input.
30	CB	I	Connection terminal for DEFECT bottom-hold capacitor.
31	CP	I	Connection terminal for MIRR hold-capacitor. Anti-reverse input terminal for MIRR comparator.

Pin No.	Pin Name	I/O	Description
32	RF_I	I	Input terminal by capacity combination of RF summing amplifier.
33	RF_O	O	Output terminal of RF summing amplifier. Checkpoint of Eye pattern.
34	RF_M	I	Anti-reverse input terminal for RF summing amplifier. The gain of RF amplifier is decided by the connection resistance between RF_M and RFO terminals.
35	RFTC	I	This is a pin where the selection time constant is externally connected to control the RF level.
36	LD	O	APC amplifier output terminal.
37	PD	I	APC amplifier input terminal.
38, 39	PD1, PD2	I	RFI-V amplifier inverted input pin. These pins are connected to the A+C and B+C pins of the optical pickup, receiving by currents input.
40	FEBIAS	I/O	Bias adjustment pin of the focus error amplifier.
41, 42	F, E	I	F and EIV amplifier inverted input pins. These pins are connected to the F and E of the optical pickup, receiving by current input.
43	EI	—	Gain adjustment pin of the I-V amplifier E. (When not in use of BAL automatic adjustment)
44	VEE	—	GND connection pin.
45	TEO	O	Output terminal for tacking-error amplifier. Output E-F signal.
46	LPFI	I	BAL adjustment comparator input pin. (Input through LPF from TEO)
47	TEI	I	Input terminal for tracking error.
48	ATSC	I	Window-comparator input terminal for detecting ATSC.
49	TZC	I	Input terminal for tracking-zero cross comparator.
50	TDFCT	I	Capacitor connection pin for the time constant used when there is defect.
51	VC	O	Output terminal for DC voltage reduced to half of VCC+VEE.
52	FZC	I	Input terminal for focus-zero cross comparator.

IC, CXD2540Q

Pin No.	Pin Name	I/O	Description
1	FOK	I	Focus OK input. Used for SENS output and the servo auto sequencer.
2	FSW	O	Spindle motor output filter switching output.
3	MON	O	Spindle motor on/off control output.
4	MDP	O	Spindle motor servo control.
5	MDS	O	
6	LOCK	O	High, when sampled value of GFS at 460Hz is high. Low, when sampled value of GFS at 460Hz is low by 8 times successively.
7	NC		
8	VCOO	O	Analog EFM PLL oscillation circuit output.
9	VCOI	I	Analog EFM PLL oscillation circuit input. fLOCK=8.6436MHz.
10	TEST	I	TEST pin.
11	PDO	O	Analog EFM PLL charge pump output.
12	VSS		GND.
13	PWMI	I	Spindle motor external control input.
14	V16M	O	VCO2 oscillation output for the wide-band EFM PLL.
15	VCTL	I	VCO2 control voltage input for the wide-band EFM PLL.
16	VPCO	O	Wide-band EFM PLL charge pump output.
17	VCKI	I	VCO2 oscillation input for the wide-band EFM PLL.
18	FILO	O	Multiplier PLL (slave=digital PLL) filter output.
19	FILI	I	Multiplier PLL filter input.
20	PCO	O	Multiplier PLL charge pump output.
21	AVSS		Analog GND.
22	CLTV	I	Multiplier VCO1 control voltage input.
23	AVDD		Analog power supply (5V).
24	RF	I	EFM signal input.
25	BIAS	I	Constant current input of the asymmetry circuit.
26	ASYI	I	Asymmetry comparator voltage input.
27	ASYO	O	EFM full-swing output.
28	ASYE	I	Low: asymmetry circuit off; high: asymmetry circuit on.
29	NC		
30	PSSL	I	Audio data output mode switching input. Low: serial output; high: parallel output.
31	WDCK	O	D/A interface for 48-bit slot. Word clock f=2Fs.
32	LRCK	O	D/A interface for 48-bit slot. LR clock f=Fs.
33	VDD		Power supply (5V).
34	DA16	O	DA16 (MSB) output when PSSL=1. 48-bit slot serial data (two's complement, MSB first) when PSSL=0.
35	DA15	O	DA15 output when PSSL=1. 48-bit slot bit clock when PSSL=0.
36	DA14	O	DA14 output when PSSL=1. 64-bit slot serial data (two's complement, LSB first) when PSSL=0.
37	DA13	O	DA13 output when PSSL=1. 64-bit slot bit clock when PSSL=0.
38	DA12	O	DA12 output when PSSL=1. 64-bit slot LR clock when PSSL=0.

Pin No.	Pin Name	I/O	Description
39	DA11	O	DA11 output when PSSL=1. GTOP output when PSSL=0.
40	DA10	O	DA10 output when PSSL=1. XUGF output when PSSL=0.
41	DA09	O	DA09 output when PSSL=1. XPLCK output when PSSL=0.
42	DA08	O	DA08 output when PSSL=1. GFS output when PSSL=0.
43	DA07	O	DA07 output when PSSL=1. RFCK output when PSSL=0.
44	DA06	O	DA06 output when PSSL=1. C2PO output when PSSL=0.
45	DA05	O	DA05 output when PSSL=1. XRAOF output when PSSL=0.
46	DA04	O	DA04 output when PSSL=1. MNT3 output when PSSL=0.
47	DA03	O	DA03 output when PSSL=1. MNT2 output when PSSL=0.
48	DA02	O	DA02 output when PSSL=1. MNT1 output when PSSL=0.
49	DA01	O	DA01 output when PSSL=1. MNT0 output when PSSL=0.
50	APTR	O	Aperture compensation control output. This pin outputs a high signal when the right channel is used.
51	APTL	O	Aperture compensation control output. This pin outputs a high signal when the left channel is used.
52	VSS		GND.
53	XTAI	I	Crystal oscillation circuit input.
54	XTAO	O	Crystal oscillation circuit output.
55	XTSL	I	Crystal selector input.
56	FSTT	O	2/3 frequency divider output for Pins 53 and 54.
57	FSOF	O	1/4 frequency divider output for Pins 53 and 54.
58	C16M	O	16.9344MHz output. (V16M output in CLV-W and CAV-W modes)
59	MD2	I	Digital-out on/off control. High: on; low: off
60	DOUT	O	Digital-out output.
61	EMPH	O	Outputs a high signal when the playback disc has emphasis, and a low signal when there is no emphasis.
62	WFCK	I	WFCK (write frame clock) output.
63	SCOR	O	Outputs a high signal when either subcode sync S0 or S1 is detected.
64	SBSO	O	Sub P to W serial output.
65	EXCK	I	SBSO readout clock input.
66	SQSO	O	Sub Q 80-bit and PCM peak, level metter and internal status outputs.
67	SQCK	I	SQSO readout clock input.
68	MUTE	I	High: mute; low: release
69	SENS	—	SENS output to CPU.
70	XRST	I	System reset. Reset when low.
71	DATA	O	Serial data input from CPU.
72	XLAT	O	Latch input from CPU. Serial data is latched at the falling edge.
73	VDD		Power supply (5V).
74	CLOK	O	Serial data transfer clock input from CPU.
75	SEIN	I	SENS input from SSP.
76	CNIN	I	Track jump count signal input.

Pin No.	Pin Name	I/O	Description
77	DATO	O	Serial data output to SSP.
78	XLTO	O	Serial data latch output to SSP. Latched at the falling edge.
79	CLKO	O	Serial data transfer clock output to SSP.
80	MIRR	I	Mirror signal input. Used when the number of tracks is 128 or more for the 2N-track jump and M track move of the auto sequencer.

Notes)

- The 64-bit slot is an LSB first, two's complement output, and the 48-bit slot is an MSB first, two's complement output.
- GTOP is used to monitor the frame sync protection status. (High: sync protection window open.)
- XUGF is the negative pulse for the frame sync obtained from the EFM signal. It is the signal before sync protection.
- XPLCK is the inverse of the EFM PLL clock. The PLL is designed so that the falling edge and the EFM signal transition point coincide.
- GFS goes high when the frame sync and the insertion protection timing match.
- RFCK is derived from the crystal accuracy, and has a cycle of 136μ.
- C2PO represents the data error status.
- XRAOF is generated when the 32K RAM exceeds the ±28F jitter margin.

IC, CL680

Pin No.	Pin Name	I/O	Description
1	NC	—	No connection.
2	VSS	—	GND.
3	CD BCK	I	Bit clock input from CD DSP.
4	CD DATA	I	Data input from CD DSP.
5	CD LRCK	I	LRCK input from CD DSP.
6	CD C2PO	I	C2 pointer input from CD DSP.
7-9	NC	—	No connection.
10-15	MD0-MD5	I/O	DRAM/ROM interface. (DATA)
16	VSS	—	Ground.
17	MD6	I/O	DRAM/ROM interface. (DATA)
18	VDD3	—	Power supply 3.3V.
19	MD7	I/O	DRAM/ROM interface. (DATA)
20	VSS	—	Ground.
21	MD8	I/O	DRAM/ROM interface. (DATA)
22	VDD3	—	Power supply 3.3V.
23-29	MD9-MD15	I/O	DRAM/ROM interface. (DATA)
30-36	NC	—	No connection.
37	$\overline{\text{MCE}}$	—	ROM chip enable.
38	$\overline{\text{MWE}}$	O	DRAM write enable.
39	VSS	—	Ground.
40	$\overline{\text{CAS}}$	O	DRAM/ROM interface.
41	VDD3	—	Power supply 3.3V.
42	$\overline{\text{RASO}}$	O	DRAM/ROM interface.
43	$\overline{\text{RASI}}$	O	
44-46	MA10-MA8	O	DRAM/ROM interface. (Address)
47	VSS	—	Ground.
48	MA7	O	DRAM/ROM interface. (Address)
49	VDD3	—	Power supply 3.3V.
50-52	MA6-MA4	O	DRAM/ROM interface. (Address)
53	VSS	—	Ground.
54	MA3	O	DRAM/ROM interface. (Address)
55	VDD3	—	Power supply 3.3V.
56-58	MA2-MA0	O	DRAM/ROM interface. (Address)
59	PGIO7	I/O	Programmable I/O.
60	$\overline{\text{RESET}}$	I	Reset input.
61	VDD MAX IN	—	Power supply - VDDMAX. (5.0V)
62-64	NC	—	No connection.
65	AGND DAC	—	Analog ground.
66	A DAC	—	Analog power supply (DAC) : 3.3V.
67	COMP OUT	O	Composite out.
68	AGND DAC	—	Analog ground.

Pin No.	Pin Name	I/O	Description
69	Y OUT	O	Video signal “Y” OUT.
70	AVDD DAC	—	Analog power supply (DAC) 3.3V.
71	AGND DAC	—	Analog ground.
72	R REF	I	Reference resistor input.
73	V REF	I	Voltage reference input.
74	AVDD DAC	—	Analog power supply (DAC) : 3.3V.
75	C OUT	O	Video signal “C” out.
76	AGND DAC	—	Analog ground.
77-79	CLK SEL0-2	I	Clock selection input.
80	VSS	—	Ground.
81	CLK SEL3	I	Clock selection input.
82	VDD3	—	Power supply 3.3V.
83, 84	CLK SEL4, 5	I	Clock selection input.
85	AGND PLL	—	Analog ground.
86	DA XCK	I	DA XCK (16.933MHz) input.
87	AVDD PLL	—	Analog power supply 3.3V.
88	DA EMP	O	DAC-emphasis output.
89, 90	PGIO5, O6	I/O	Programmable I/O.
91	PGIO0	I/O	
92	PGIO8	I/O	
93	$\overline{\text{VSYNC}}/\overline{\text{CSYNC}}$	O	$\overline{\text{VSYNC}}/\overline{\text{CSYNC}}$ output.
94	AVDD PLL	—	Analog power supply (PLL) 3.3V.
95	VID_DAC_CK	O	Video DAC clock.
96	PROC_CK	O	Processor clock.
97	AUD_XCK	O	Audio XCK.
98	AGND PLL	—	Analog ground.
99	VSS	—	Ground.
100	NC	—	No connection.
101	$\overline{\text{HSYNC}}$	O	$\overline{\text{HSYNC}}$ output.
102	VDD3	—	Power supply 3.3V.
103	VCK OUT	O	VCK out.
104	VSS	—	Ground.
105	GCK	I	Global clock signal input. (42.3MHz)
106	VCK	I	Video clock signal input. (27.0MHz)
107	GCK OUT	O	Global clock signal output. (27.0MHz)
108	DA LRCK	O	DAC-LRCK output.
109	VDD MAX OUT	—	Power supply (VDD MAX) : 5.0V.
110	DA DATA	O	DAC-PCM data output.
111	DA BCK	O	DAC-BIT clock output.
112	HD OUT	O	Micon interface. (Data out)
113	HRDY	O	Micon interface. (Host ready)

Pin No.	Pin Name	I/O	Description
114	$\overline{\text{HINT}}$	O	Micon interface. (Host interrupt)
115	CDG SCK	I	CD-G serial clock input.
116	VSS	—	Ground.
117	HCK	I	Micon interface. (Host clock)
118	VDD3	—	Power supply 3.3V.
119	HD IN	I	Micon interface. (Host data in)
120	VDD3	—	Power supply 3.3V.
121	HSEL	I	Micon interface. (Host select in)
122	CDG DATA	I	CD-G data input.
123	CDG VFSY	I	CD-G VFSY input.
124	CDG SOSI	I	CD-G SOSI input.
125	DSP-XCK	O	DSP-XCK output.
126-128	NC	—	No connection.

IC, LC74781M

Pin No.	Pin Name	I/O	Description
1	VSS1	—	GND connection terminal. (Digital ground terminal).
2	Xtal IN	I	External X'tal and capacitor for internal sync generator, or the external clock are connected to this terminal. (2fsc or 4fsc).
3	Xtal OUT	O	
4	CTRL1	I	Either the external clock input mode or the X'tal generator mode is selected by this selector terminal. L: X'tal generator mode, H: External clock input.
5	BLANK	O	Blank signal (character and the green ORed signal) is output from this terminal. (MODE 0: composite sync signal is output at H.) When reset ($\overline{RST}$ terminal = L), the X'tal clock signal is output. (It is not output when reset by the reset command).
6	OSC IN	I	External coil and capacitor for the character output dot clock generator are connected to this terminal.
7	OSC OUT	O	
8	CHARA	O	The character signal is output from this terminal. (MOD 0: when H, the external sync signal identification signal is output from this terminal. This output signal tells whether the external sync signal is present or not. When external sync signal is present, H is output.) When reset ($\overline{RST}$ terminal = L), the dot clock signal (LC oscillator) is output. (It is not output when reset by the reset command).
9	$\overline{CS}$	I	Enable signal for the serial data input is input to this terminal. The serial data input is enabled at L. Pull-up resistor is built-in. (Hysteresis input).
10	SCLK	I	Clock of the serial data input is input to this terminal. Pull-up resistor is built-in. (Hysteresis input).
11	SIN	I	Serial data input terminal. Pull-up resistor is built-in. (Hysteresis input).
12	VDD2	—	Power supply for the composite video signal level adjustment. (Analog power supply).
13	CV OUT	O	Composite video signal output terminal.
14	NC	—	Connected to GND or not connected.
15	CV IN	I	Composite video signal input terminal.
16	VDD1	—	Power supply (+5V digital power supply).
17	SYN IN	I	Video signal for the internal sync separator circuit is input to this terminal. (When the internal sync separator circuit is not used, the horizontal sync signal or composite sync signal is input to this terminal).
18	SEP C	—	Internal sync separator circuit bias voltage monitoring terminal.
19	SEP OUT	O	The composite sync output signal of the internal sync separator circuit is output from this terminal. (H: MOD 1. H: during internal sync mode. L: during external sync mode.) (When internal sync separator circuit is not used, the SYN IN input signal is output from this terminal).
20	SEP IN	I	The output signal of the SEP OUT terminal is integrated so that the vertical sync signal is input to this terminal. An integrator circuit must be connected between the SEP OUT terminal and this terminal. When this terminal is not used, it must be connected to VDD1.
21	CTRL2	I	When selecting any of the NTSC or PAL or PAL-M or PAL-N system, the pin setting has priority. When L, the NTSC system is selected after resetting. Selection of either NTSC or PAL or PAL-M or PAL-N system by the command becomes effective. H: PAL-M system.

Pin No.	Pin Name	I/O	Description
22	CTRL3	I	Controls whether or not to input the $\overline{\text{VSYNC}}$ signal to the SEPIN input. L: to input the $\overline{\text{VSYNC}}$ signal. H: not to input the $\overline{\text{VSYNC}}$ signal.
23	$\overline{\text{RST}}$	I	System reset input terminal. Pull-up resistor is built-in. (Hysteresis input).
24	VDD1	—	Power supply. (+5V digital power supply).

IC, µPD78016FGC

Pin No.	Pin Name	I/O	Description
1	RBPLS	O	RADIAL BALANCE PLUS.
2	AMUTE	O	AUDIO ANALOG MUTE (H=MUTE ON).
3	GFS	I	GFS.
4	XVCDMD	I	AUDIO/VIDEO CD MODE (L=VCD=SPINDLE GAIN UP).
5	MD2	O	DOUT MUTE CONT.
6	EMPH	I	EMPHASIS.
7	SQSO	I	SQDATA FROM CD.
8	SQCK	O	SQCLK TO CD.
9	VSS	—	GND.
10	SWNT	I	SW TV OUT MODE (L=NTSC).
11	SWAUTO	I	SW TV OUT MODE (L=NTSC/PAL AUTO).
12	SWPAL	I	SW TV OUT MODE (L=PAL).
13	EMERG	I	POWER EMERGENCY STOP (L*3sec=STOP).
14	NC	—	Nou used.
15	LPCSEL	I	“LPC ON/OFF (H=ON, NORMAL)”.
16	NC	—	Nou used.
17	LOCK	O	GFS (FRAME SYNC) LOCK (NO USE=H).
18	DMUTE	O	DIGITAL DATA OUT MUTE.
19	SENS	I	DSP SENS1 FROM CD.
20	XCDRST	O	CD RESET.
21	DATA	O	DATA TO CD.
22	XLAT	O	XLT TO CD.
23	CLOK	O	CLK TO CD.
24	VSS	—	GND.
25	FOK	I	FOCUS OK.
26	SENS2	I	SSP SENS2 FROM CD.
27	XBUSY	I/O	READY/BUSY I/O TO HOST OD.
28	NC	—	Nou used.
29	NC	—	
30	NC	—	
31	TST0	I/O	CHECK LAND.
32	TST1	I/O	
33	TST2	I/O	
34	TST3	I/O	
35	RESET	I	RESET.
36	HRDY	I	HRDY FROM CL680.
37	XHINT	I	HINT FROM CL680.
38	NC	—	Nou used.
39	SCOR	I	SCOR FROM CD.
40	VDD	—	5.0VDD.
41	XO	O	8.0MHz CERALOCK.

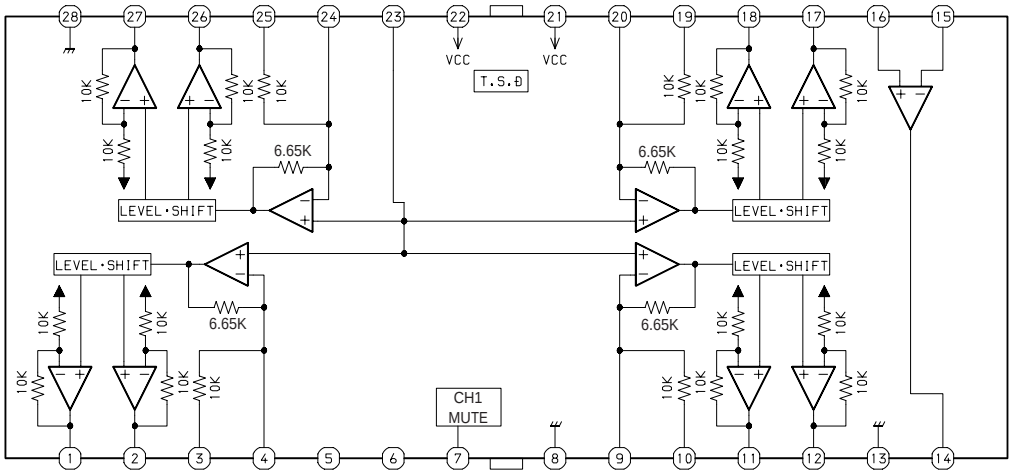
Pin No.	Pin Name	I/O	Description
42	XI	I	8.0MHz CERALOCK.
43	VSS	—	GND.
44	XT2	—	Nou used.
45	XT1	I	5.0VDD.
46	AVSS	—	GND.
47	XMPGRST	O	MPEG BLOCK IC RESET.
48	HSEL	O	ADDRESS/DATA SEL TO CL680.
49	INLSW	I	INSIDE LIMIT SW.
50	NC	—	Nou used.
51	OSDXCS	O	OSD CHIP SELECT.
52	ABSEL	I	CXA1992A/B SELECT (L=CXA1992A).
53	CLVSEL	I	CLV MODE SELECT (H=CLV-N).
54	AADSEL	I	AUTO ADJUST SELECT (H=AUTO ON).
55	AVDD	—	5.0VDD.
56	AVREF	—	
57	HDOUT	I	HD-OUT FROM CL680.
58	HDIN	O	HD-IN TO CL680.
59	HCK	O	HCK TO CL680.
60	OSDDATA	O	OSD DATA.
61	OSDCLK	O	OSD CLOCK.
62	COMMAND	I	COMMAND FROM HOST.
63	STATUS	O	STATUS TO HOST.
64	SCK	I	SCK FROM HOST.

IC, SM5878M

Pin No.	Pin Name	I/O	Description
1	MUTE	I	MODE = H: Soft mute ON/OFF terminal. (Mute at H). MODE = L: Attenuator level DOWN/UP terminal. (DOWN at H).
2	DEEM	I	De-emphasis ON/OFF terminal. (De-emphasis ON at H).
3	CKO	O	Oscillator clock output. (16.9344 MHz).
4	DVSS	—	Digital VSS terminal.
5	BCKI	I	Bit clock input terminal.
6	DI	I	Serial data input terminal.
7	DVDD	—	Digital VDD terminal.
8	LRCI	I	Sample rate clock (fs) input terminal. (H = L ch/L = R ch).
9	TSTN	I	Test input. (“H” or open during normal operation)
10	TO1	O	Test output 1. (Normally low level output).
11	AVDDL	—	Analog VDD terminal. (For L ch).
12	LO	O	Left channel analog output terminal.
13	AVSS	—	Analog VSS terminal.
14	RO	O	Right channel analog output terminal.
15	AVDDR	—	Analog VDD terminal. (For R ch).
16	MUTEO	O	Infinity zero detection output.
17	XVDD	—	X’tal system VDD terminal.
18	XTI	I	X’tal oscillator terminal. (Or external clock input terminal of 16.9344 MHz).
19	XTO	O	X’tal oscillator terminal.
20	XVSS	—	X’tal system VSS terminal.
21	DS	I	Double-speed/normal playback selection. (Double-speed at H).
22	RSTN	I	Reset terminal. (Reset at L).
23	MODE	I	Soft mute/Attenuator mode selection. (Soft mute at H).
24	ATCK	I	Attenuator level setup clock (Ignored when MODE = H).

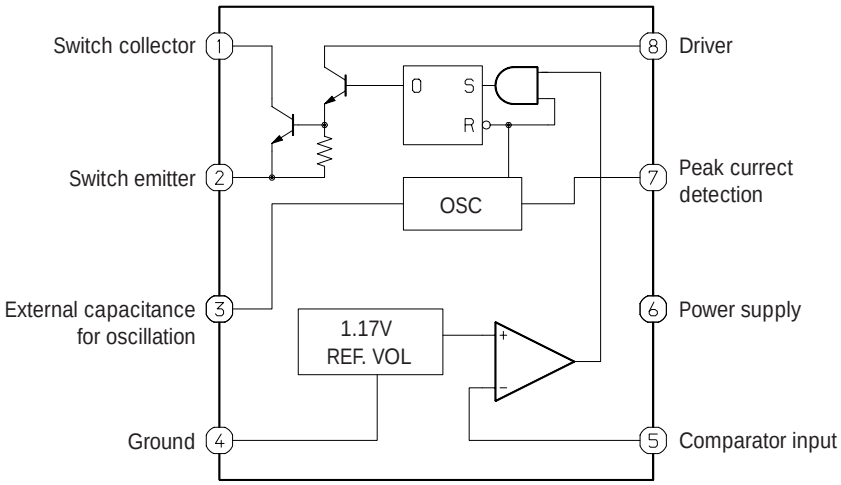
IC BLOCK DIAGRAM

IC, BA5915FP

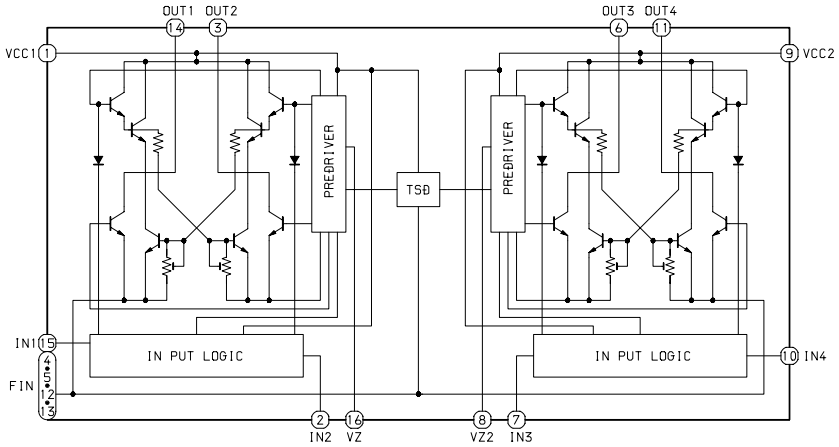


T.S.D: Thermal shut-down
Resistors are in units of Ω.

IC, M5291FP



IC, LB1644



TRUH TABLE

IN1	IN2	OUT1	OUT2	IN3	IN4	OUT3	OUT4
0	0	L	L	0	0	L	L
1	0	H	L	1	0	H	L
0	1	L	H	0	1	L	H
1	1	L	L	1	1	L	L

INPUT			OUTPUT				MODE	
IN1	IN2.3	IN4	OUT1	OUT2	OUT3	OUT4	M1	M2
0	0	0	L	L	L	L	BRAKE	BRAKE
1	0	0	H	L	L	L	FF/REW	BRAKE
0	1	1	L	H	L	L	REW/FF	BRAKE
1	1	0	L	L	H	L	BRAKE	FF/REW
0	0	1	L	L	L	H	BRAKE	REW/FF
1	1	1	L	L	L	L	BRAKE	BRAKE

TEST MODE

1. How to Activate CD Test Mode
   Insert the AC plug while pressing the function CD button.
   All FL display tubes will light up, and the test mode will be activated.

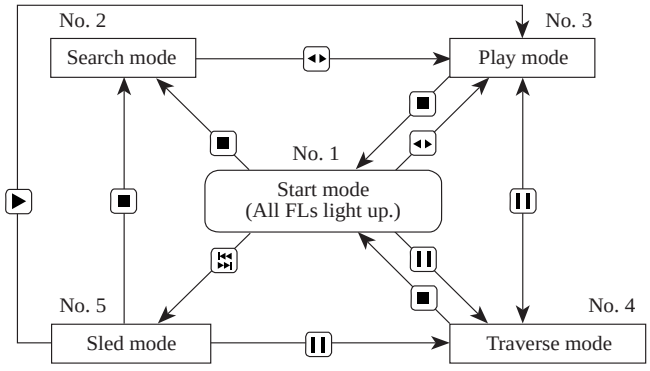
2. How to Cancel CD Test Mode
   Either one of the following operations will cancel the CD test mode.
   - Press the function button. (except CD function button)
   - Press the power switch button.
   - Disconnect the AC plug

3. CD Test Mode Functions
   When test mode is activated, the following mode functions from No.1 to No.5 can be used by pressing the operation keys.

Mode/No.	Operation	FL display	Operation	Contents
Start mode No.1	Activation	TEST□□ □□ □□ Flashes repeatdly	• Test mode is activated. • CD block power is ON.	• Test mode
Search mode No.2	■ key		• Continual focus search (The pickup lens repeats the full-swing up-down motion.) * Avoid continual searches that last for more than 10 minutes. * NOTE 1	FOCUS SERVO • Check focus search waveform • Check focus error waveform (FOK/FZC are not monitored in the search mode)
Play mode No.3	◀▶key		• Normal playback • Focus search is continued if TOC cannot be read. * NOTE 1	FOCUS SERVO/TRACKING SERVO CLV SERVO/SLED SERVO Check FOK/FZC
Traverse mode No.4	⏸ key		• During normal disc playback Press once; tracking servo OFF Press twice; tracking servo ON * NOTE 2	TRACKING SERVO ON/OFF Tracking balance (traverse) check
Sled mode No.5	⏮key ⏭	All lamps light	• Pickup moves to the outermost track • Pickup moves to the innermost track * NOTE 3 (During playback, machine operates normally.)	SLED SERVO Check SLED mechanism operation

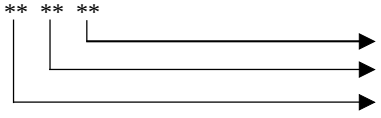
* NOTE 1: There are cases when the tracking servo cannot be locked owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is operated continually for more than 10 minutes. In these cases the power supply should be switched off for 10 minutes until heat has been reduced and then re-started.
* NOTE 2: Do not press the ⏮ or ⏭ keys when the machine is in the ⏸ status is active. If they are pressed, playback will not be possible after the ⏸ status has been canceled. If the ⏮ or ⏭ keys are pressed in the ⏸ status, press the ■ key and return to the start mode (No.1).
* NOTE 3: When pressing the ⏮ or ⏭ keys, take care to avoid damage to the gears. Because the sled motor is activated when the ⏮ or ⏭ keys are pressed, even when the pick-up is at the outermost or innermost track.

4. Operation Outline
   The operation of each mode is carried out in the direction of the arrows from the start mode as indicated in the following illustration.



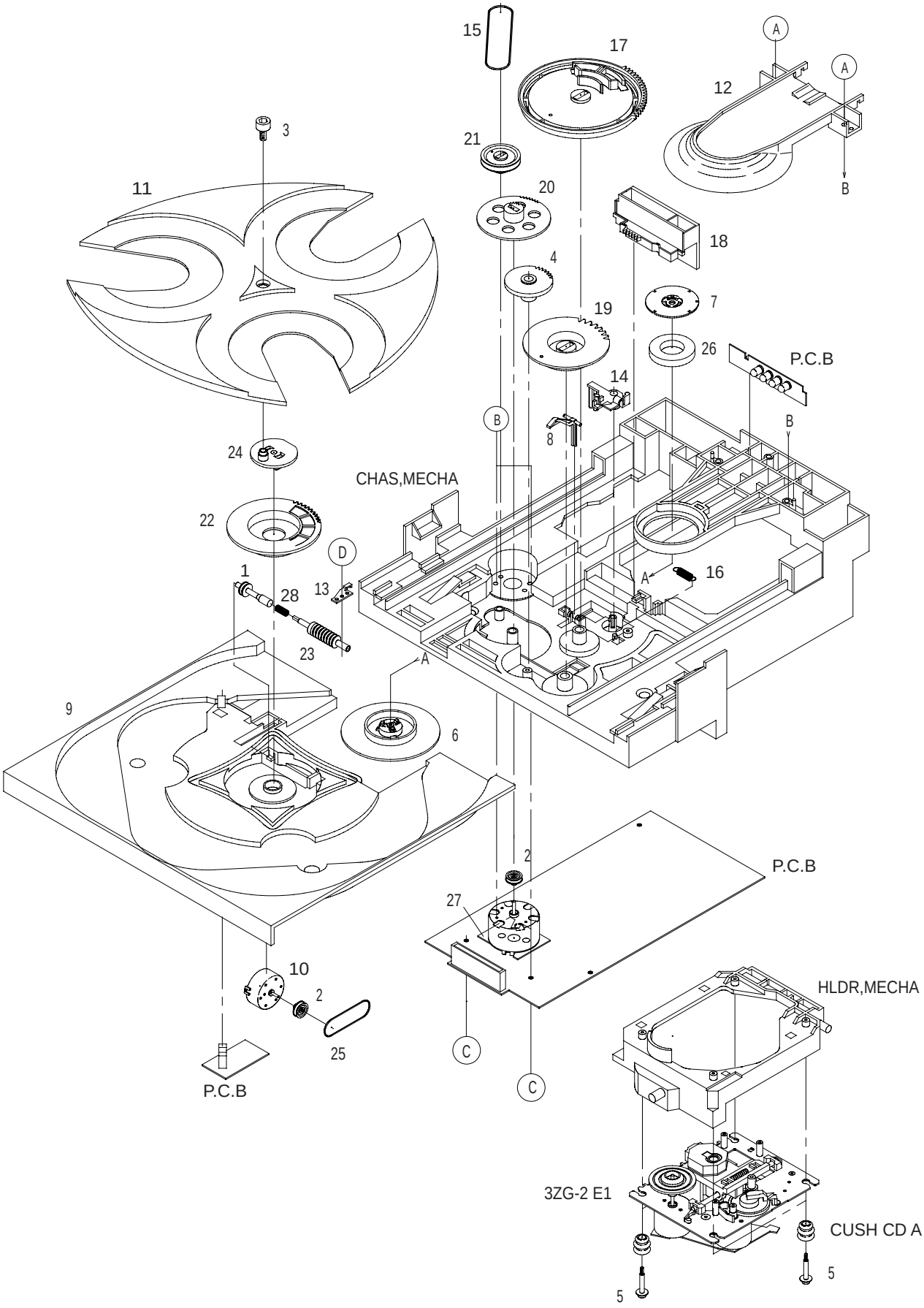
   If the DISC DIRECT PLAY button is pressed, the machine performs the same operation as the PLAY button is pressed as shown. If the tray is opened by pressing OPEN/CLOSE button during Play mode or Traverse mode, the machine returns to the Start mode.

5. How to check the Automatic Adjustment Values
   The automatic adjustment values can be checked by pressing the square (■) button.
   FL display (displayed in hexadecimal values)



Note) The reference value is “20 08 08”.

MECHANICAL EXPLODED VIEW 1/1

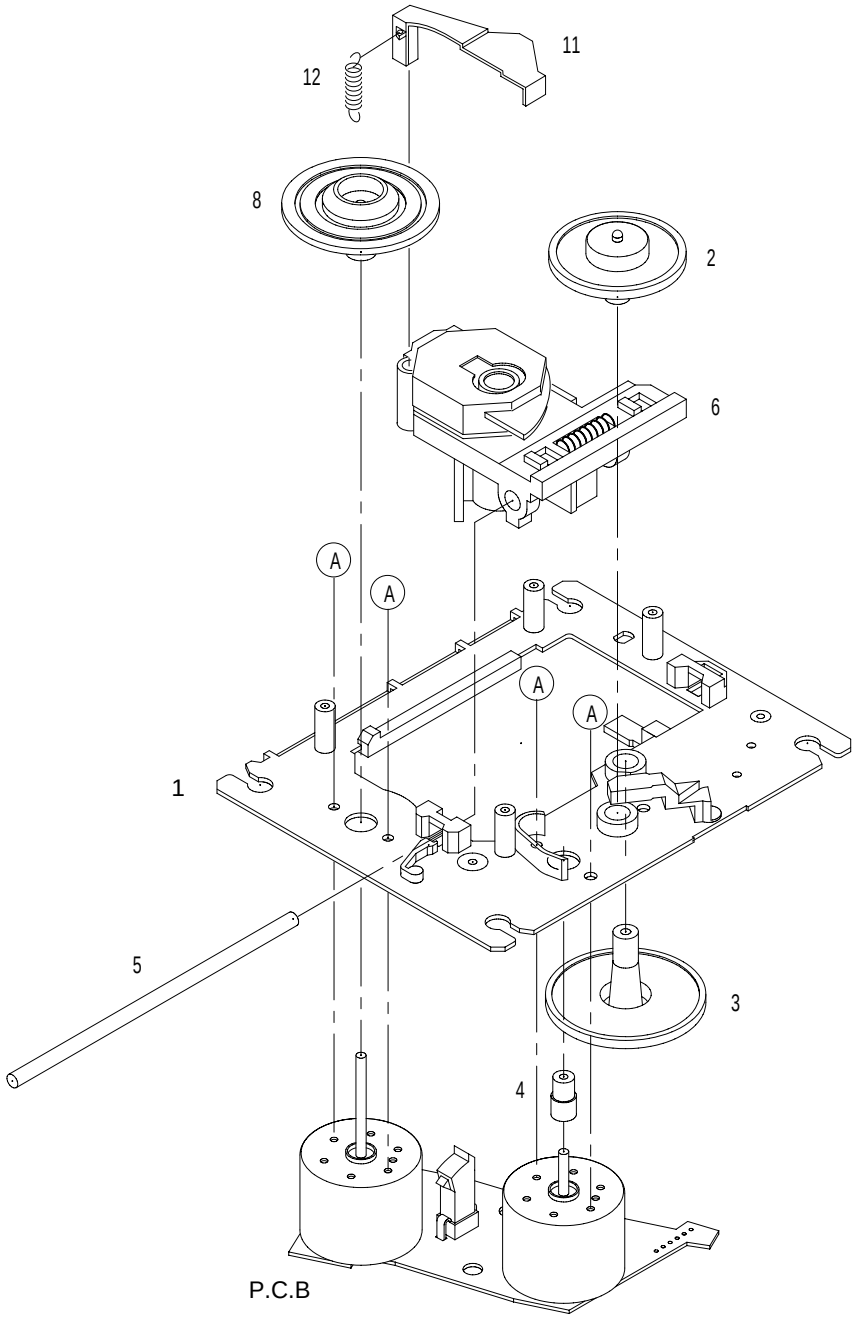


MECHANICAL PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	84-ZG1-239-210		PULLY,WORM N
2	84-ZG1-267-010		PULLEY,LOAD MO 8
3	81-ZG1-239-010		S-SCREW,TT
4	81-ZG1-291-110		GEAR,TRAY RELAY NO3
5	81-ZG1-271-010		S-SCREW MECH REAR
6	81-ZG1-277-310		HLDR,MAGNET N
7	81-ZG1-255-110		PLATE,MAGNET MK2
8	83-ZG3-213-010		LVR,SW
9	84-ZG1-003-310		TRAY,NO2-B
10	87-045-364-010		MOTOR(BCH3B14)
11	84-ZG1-005-210		TURNTABLE,NO1(*)
12	84-ZG1-011-010		REFLECTOR,CD
13	84-ZG1-259-010		SPR-P,WORM
14	84-ZG1-208-210		LEVER,CAM
15	84-ZG1-209-010		BELT,SQ1.8-117.7
16	84-ZG1-211-010		SPR-E CAM S
17	84-ZG1-215-410		GEAR,MAIN CAM BLU
18	84-ZG1-216-310		SLIDE,MECHA CAM YEL
19	84-ZG1-205-110		GEAR,TRAY
20	84-ZG1-206-110		GEAR,RELAY
21	84-ZG1-207-010		PULLEY,RELAY
22	84-ZG1-221-010		GEAR,MAIN TT
23	84-ZG1-238-010		GEAR,WORM N
24	84-ZG1-224-010		LEVER,TT
25	84-ZG1-225-010		BELT,SQ1.0-63.3
26	83-ZG3-602-010		RING,MAG
27	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)
28	84-ZG1-248-010		SPR-C,WORM
A	87-067-703-010		TAPPING SCREW, BVT2+3-10
B	87-251-070-410		U+2.6-3
C	87-342-036-210		UT2+2-8
D	87-067-981-010		BVT2+3-6 BLK

CD MECHANISM EXPLODED VIEW 1/1 (3ZG-2 E1)



CD MECHANISM PARTS LIST 1/1 (3ZG-2 E1)

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG2-243-110		CHAS ASSY,SHT
2	83-ZG2-235-010		GEAR,A3
3	83-ZG2-205-210		GEAR,B
4	83-ZG2-236-010		GEAR MOTOR 3
5	83-ZG2-240-010		SHAFT,SLIDE 3
6	87-A90-836-010		PICKUP,KSS-213F
8	83-ZG2-233-010		TURN TABLE,A5
11	83-ZG2-245-110		LEVER,SHUTTER
12	83-ZG2-250-010		SPR-E,SHT 2
A	87-261-032-210		SCREW V+2-3

CX-NAK572
CX-NK270
CX-NK290
CX-NK370
CX-NK570
CX-NK765
CX-NK770
CX-NK970
DX-SNKH100

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

サービス技術ニュース	
番号	連絡内容
G一　一	
G一　一	
G一　一	

アイワ株式会社
AIWA CO.,LTD.

〒110　東京都台東区池之端1-2-11　☎03（3827）3111（代表）

912162

Tokyo Japan

Printed in Singpore